

## INVENTOR SEARCH

=> fil cap; d que nos 144  
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FILE COVERS 1907 - 17 Mar 2008 VOL 148 ISS 12  
FILE LAST UPDATED: 16 Mar 2008 (20080316/ED)

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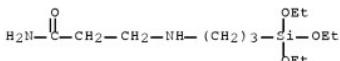
<http://www.cas.org/infopolicy.html>  
'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

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| L7  | 1 SEA FILE=REGISTRY ABB=ON 7631-86-9   |
| L8  | 1 SEA FILE=REGISTRY ABB=ON 79-06-1   |
| L9  | 1 SEA FILE=REGISTRY ABB=ON 79-22-1   |
| L10 | 1 SEA FILE=REGISTRY ABB=ON 15761-39-4  |
| L11 | 411148 SEA FILE=CAPLUS ABB=ON L7   |
| L12 | 21174 SEA FILE=CAPLUS ABB=ON (L8 OR L9 OR L10)   |
| L19 | 3 SEA FILE=CAPLUS ABB=ON L6  |
| L38 | 40 SEA FILE=CAPLUS ABB=ON ANTIA F?/AU  |
| L39 | 1852 SEA FILE=CAPLUS ABB=ON BOYD R?/AU   |
| L40 | 84 SEA FILE=CAPLUS ABB=ON DASILVA J?/AU  |
| L41 | 146 SEA FILE=CAPLUS ABB=ON GOLDEN K?/AU  |
| L42 | 1 SEA FILE=CAPLUS ABB=ON NTIGYABAHI J?/AU  |
| L43 | 547 SEA FILE=CAPLUS ABB=ON WELCH C?/AU   |
| L44 | 2 SEA FILE=CAPLUS ABB=ON L1 OR ((L38 OR L39 OR L40 OR L41 OR L42 OR L43) AND ((L11 AND L12) OR L19)) |

=> d ibib abs hitstr 144 1-2

|   |
|---|
| L44 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN  |
| ACCESSION NUMBER: 2005:1319723 CAPLUS <u>Full-text</u>  |
| DOCUMENT NUMBER: 144:219440   |
| TITLE: Preparation and evaluation of novel stationary phases for improved chromatographic purification of pneumocandin B0 |
| AUTHOR(S): Welch, Christopher J.; DaSilva, Jimmy O.; Nti-Gyabaah, Joseph; Antia, Firoz; Goklen, Kent; Boyd, Russell       |

CORPORATE SOURCE: Merck Research Laboratories, Merck & Co. Inc., Rahway, NJ, 07065, USA  
 SOURCE: Journal of Chromatography, A (2006), 1101(1-2), 204-213  
 PUBLISHER: Elsevier B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Preparation and evaluation of a number of stationary phases for improved chromatog. purification of pneumocandin B0, a key intermediate in the synthesis of the antifungal agent, Cancidas, has led to the identification of several materials with potential for improved performance.  
 IT 18388-80-0  
 RL: AMX (Analytical matrix); ANST (Analytical study)  
 (preparation and evaluation of novel stationary phases for improved chromatog. purification of pneumocandin B0)  
 RN 18388-80-2 CAPLUS  
 CN Propanamide, 3-[(3-(triethoxysilyl)propyl]amino]- (CA INDEX NAME)



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L44 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2005:260178 CAPLUS Full-text  
 DOCUMENT NUMBER: 142:312724  
 TITLE: Stationary phases and a purification process using the stationary phases  
 INVENTOR(S): Antia, Firoz D.; Boyd, Russell;  
 Dasilva, Jimmy O.; Goklen, Kent E.;  
 Ntigyabasha, Joseph; Welch, Christopher J.  
 PATENT ASSIGNEE(S): Merck & Co., Inc., USA  
 SOURCE: PCT Int. Appl., 32 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------|------|----------|-----------------|----------|
| WO 2005026323 | A2   | 20050324 | WO 2004-US28657 | 20040901 |
| WO 2005026323 | A3   | 20050915 |                 |          |

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 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,  
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,  
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
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SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,  
SN, TD, TG

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|--|----|----------|------------------|--------------|
| AU 2004273029  | A1 | 20050324 | AU 2004-273029   | 20040901     |
| CA 2537574   | A1 | 20050324 | CA 2004-2537574  | 20040901     |
| EP 1663275   | A2 | 20060607 | EP 2004-783035   | 20040901     |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK |    |          |                  |              |
| CN 1845751   | A  | 20061011 | CN 2004-80025505 | 20040901     |
| JP 2007504460  | T  | 20070301 | JP 2006-525452   | 20040901     |
| IN 2006DN00878   | A  | 20070810 | IN 2006-DN878    | 20060220     |
| US 2007010655  | A1 | 20070111 | US 2006-569155   | 20060221 <-- |
| PRIORITY APPLN. INFO.:   |    |          | US 2003-500624P  | P 20030905   |
|  |    |          | WO 2004-US28657  | W 20040901   |

OTHER SOURCE(S): MARPAT 142:312/24

AB This invention relates to a novel stationary phase of Formula I and a method for purifying a peptide or lipopeptide in liquid chromatog. using select stationary phases, including the stationary phases of Formula I to improve the resolution and/or productivity of the purification. This chromatog. method can be used for either an anal. or preparative scale purification

IT 79-06-1LP, Acrylamide, reaction product with aminopropyl-modified silica 79-22-1DP, Methyl chloroformate, reaction product with aminopropyl-modified silica 7631-86-9DF, Silica, aminopropyl-modified, reaction product with acrylamide or Me chloroformate or BOC-L-proline 15761-39-4DF, reaction product with aminopropyl-modified silica, deprotected

RL: ARU (Analytical role, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); PROC (Process)  
(stationary phases and a purification process using the stationary phases)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



RN 79-22-1 CAPLUS

CN Carbonochloridic acid, methyl ester (CA INDEX NAME)



RN 7631-86-9 CAPLUS

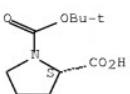
CN Silica (CA INDEX NAME)



RN 15761-39-4 CAPLUS

CN 1,2-Pyrrolidinedicarboxylic acid, 1-(1,1-dimethylethyl) ester, (2S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



## STRUCTURE SEARCH

=> fil reg; d stat que 16  
FILE 'REGISTRY' ENTERED AT 10:11:25 ON 17 MAR 2008  
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STRUCTURE FILE UPDATES: 16 MAR 2008 HIGHEST RN 1008362-16-0  
DICTIONARY FILE UPDATES: 16 MAR 2008 HIGHEST RN 1008362-16-0

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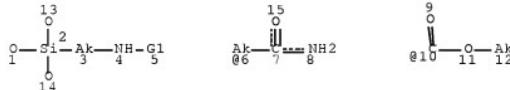
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experimental property data in the original document. For information  
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L3 STR



VAR G1=6/10

NODE ATTRIBUTES:

CONNECT IS E2 RC AT 3  
CONNECT IS E2 RC AT 6  
CONNECT IS E1 RC AT 12  
DEFAULT MLEVEL IS ATOM  
GGCAT IS SAT AT 3  
GGCAT IS SAT AT 6  
GGCAT IS SAT AT 12  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L6 1 SEA FILE=REGISTRY SSS FUL L3

100.0% PROCESSED 15178 ITERATIONS  
SEARCH TIME: 00.00.01

1 ANSWERS

=> fil cap1; d que nos 119  
FILE 'CAPLUS' ENTERED AT 10:11:30 ON 17 MAR 2008  
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FILE LAST UPDATED: 16 Mar 2008 (20080316/ED)

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L19         3 SEA FILE=CAPLUS ABB=ON L6

=> s 119 not 144
L45          2 L19 NOT L44      L44=INVENTOR SEARCH ANSWER SET

=> d ibib abs hitstr 145 1-2
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L45 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1962:469378 CAPLUS Full-text
DOCUMENT NUMBER: 57:69378
ORIGINAL REFERENCE NO.: 57:13804f-i
TITLE: Aminoalkylsilicon compounds
INVENTOR(S): Pike, Ronald M.; Morehouse, Edward L.
PATENT ASSIGNEE(S): Union Carbide Corp.
SOURCE: 11 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
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| PATENT NO.            | KIND  | DATE     | APPLICATION NO. | DATE     |
|-----------------------|---|----------|-----------------|----------|
| US 3033815            |   | 19620508 | US 1959-836623  | 19590828 |
| PRORITY APPLN. INFO.: |   |          |                 |          |
| AB                    | Aminoalkylsilicon compds. of the formula (I) H <sub>2</sub> N <sub>a</sub> H <sub>2a</sub> -SiRbY <sub>3-b</sub> (a = at least 3, b = 0 to 2, Y = alkoxy radicals, R = alkyl or aryl) react with BHC: CR'X(II) (B = hydrogen, alkyl or aryl; R' = hydrogen or alkyl; X = nitrile or COD, wherein D is hydrogen, alkyl, aryl, alkoxy, or amino) forming organosilicon compds. having at least one group of the formula |          |                 |          |

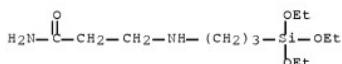
XCHR'CHBNHCaH<sub>2</sub>aSiRbY<sub>3</sub>-b and (XCHR'CHB)2NCaH<sub>2</sub>aSiRbY<sub>3</sub>-b. To 75 g.  $\gamma$ -aminopropyltriethoxysilane was added 29.2 g. Me acrylate and the mixture was heated under constant stirring at 80°/2 mm. Distillation of the product 61.4 g.  $\gamma$ -(N-2-carbomethoxyethyl)aminopropyltriethoxysilane (III), b0.33-0.38 109-11°, n<sub>25D</sub> 1.4308, and 3.6 g.  $\gamma$ -N,N- bis(2-carbomethoxyethyl)aminopropyltriethoxysilane, b0.0,-0.9 145-67°, n<sub>25D</sub> 1.4388, besides two unidentified fractions b0.55-0.38 55-104° and b0.33-0.30 130-140°. Hydrolysis of 32 g. III with 18 g. H<sub>2</sub>O and 15 ml. concentrated HCl at 33°, with a stream of argon passing through the solution, yielded after evaporation of the liquid products (2 hrs. at 100°/1-5 mm.) 24.7 g.  $\gamma$ -(N-2-carbomethoxyethyl)aminopropylpolysiloxane, a white, resinous product. I may also be an aminoalkylsiloxane polymer or a siloxane copolymer containing the unit H2NCaH<sub>2</sub>aSiRbO(3-b)/2, forming with II (XCHR'CHB)2NCaH<sub>2</sub>aSiRbO(3-b)/2 and XCHRtCHBNHCaH<sub>2</sub>aSiRbO(3-b)/2. The products are useful as sizes for fibrous materials, particularly fibrous glass materials, and as adhesives and flocculation agents.

IT 18388-80-2P, Propionamide, 3-[{3-(triethoxysilyl)propyl]amino]-

RL: PREP (Preparation)  
(preparation of)

RN 18388-80-2 CAPLUS

CN Propanamide, 3-[{3-(triethoxysilyl)propyl]amino]- (CA INDEX NAME)



L45 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1962:60684 CAPLUS

DOCUMENT NUMBER: 56:60684

ORIGINAL REFERENCE NO.: 56:11621d-g

TITLE: Organosilicon compounds and process for producing same

INVENTOR(S): Pike, Ronald Marston; Morehouse, Edward L.

PATENT ASSIGNEE(S): Union Carbide Corp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE     |
|------------|------|----------|-----------------|----------|
| GB 882051  | ---- | 19611108 | GB 1957-30940   | 19571003 |
| DE 1114326 |      |          | DE              |          |

PRIORITY APPLN. INFO.:

US 19561012

GB 19571003

AB Organosilicon compds. containing substituted amino groups linked to the Si atom through a polymethylene linkage of at least 3 C atoms are prepared by the reaction of an aminoalkyl Si compound with an  $\alpha,\beta$ -olefinically unsatd.

organic compound at 80-80°. ( $\gamma$ -Aminopropyl)triethoxy-silane (I) (75 g.) and 29.2 g. Me acrylate were stirred together at 2 mm. to a temperature of 80°. The product was fractionally distilled. The fraction b0.33-0.38 109-11° was 61.4 g.  $\gamma$ -(N-2-carbomethoxyethyl)aminopropyl]triethoxysilane, n<sub>25</sub> 1.4308. Prepared similarly was [ $\gamma$ -(N,N-di-2-carbethoxyethyl)aminopropyl]triethoxysilane, b0.4-0.45 149-66°, n<sub>25D</sub> 1.4372-1.4379.

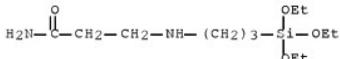
Acrylamide (89.1 g.) is added dropwise to 110.7 g. I with stirring, the mixture heated to 80° 4 hrs., distilled in vacuo until 49.5 g. was collected. The fraction b1.52-2.5 85-192°, n<sub>25</sub> 1.4448-1.4521 was [ $\gamma$ -(N-2-aminoethylamino-propyl)triethoxysilane. I (442.6 g.) under argon was cooled to 5°, 213.4 g. acrylonitrile added dropwise below 30°, the mixture kept overnight, and a 327.4-g. portion distilled; the 210.6-g. fraction b0.6-0.7 127-32° was [ $\gamma$ -(N-2-cyanoethyl)-aminopropyl]triethoxysilane. Prepared similarly were: [ $\delta$ -(N-2-cyanoethyl)aminobutyl]triethoxysilane, b0.3-0.4 128-35°, n<sub>2D5</sub> 1.4370; [ $\delta$ -(N-2-cyanoethyl)butyl)methyldiethoxy silane, b0.9 115-16°, n<sub>2D5</sub> 1.4423; [ $\delta$ -(N-1-phenyl-2-carbethoxyethyl)-aminobutyl)methyldiethoxysilane, b0.5152-62°, n<sub>25</sub> 1.4776.

IT 18388-80-2F, Propionamide, 3-[3-(triethoxysilyl)propyl]amino-

RL: PREP (Preparation)  
(preparation of)

RN 18388-80-2 CAPLUS

CN Propanamide, 3-[3-(triethoxysilyl)propyl]amino- (CA INDEX NAME)



## SEARCH OF REGISTRY NUMBERS OF COMPONENTS

=> fil cap1; d que 115; d que 122; d que 124; d que 126; d que 132; d que 133; d que 134  
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FILE LAST UPDATED: 16 Mar 2008 (20080316/ED)

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| L8  | 1 SEA FILE=REGISTRY ABB=ON 79-06-1  |
| L9  | 1 SEA FILE=REGISTRY ABB=ON 79-22-1  |
| L10 | 1 SEA FILE=REGISTRY ABB=ON 15761-39-4   |
| L11 | 411148 SEA FILE=CAPLUS ABB=ON L7  |
| L12 | 21174 SEA FILE=CAPLUS ABB=ON (L8 OR L9 OR L10)  |
| L13 | 411 SEA FILE=CAPLUS ABB=ON L11 AND L12  |
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| L9  | 1 SEA FILE=REGISTRY ABB=ON 79-22-1             |
| L10 | 1 SEA FILE=REGISTRY ABB=ON 15761-39-4          |
| L12 | 21174 SEA FILE=CAPLUS ABB=ON (L8 OR L9 OR L10) |
| L16 | 8921 SEA FILE=CAPLUS ABB=ON L7/D               |
| L20 | 34779 SEA FILE=CAPLUS ABB=ON IMMobilization/CW |
| L22 | 3 SEA FILE=CAPLUS ABB=ON L12 AND L16 AND L20   |

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L24 1 SEA FILE=CAPLUS ABB=ON L23 AND L12

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| L25 | 2342540 | SEA FILE=CAPLUS ABB=ON   | PHARMAC?/SC, SX     |
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L11 411148 SEA FILE=CAPLUS ABB=ON L7  
L12 21174 SEA FILE=CAPLUS ABB=ON (L8 OR L9 OR L10)  
L20 34779 SEA FILE=CAPLUS ABB=ON IMMOBILIZATION/CW  
L30 811992 SEA FILE=CAPLUS ABB=ON 9/SC,SX =BIOCHEMICAL METHODS  
L32 17 SEA FILE=CAPLUS ABB=ON L11 AND L30 AND L12 AND L20

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| L30 | 811992  | SEA FILE=CAPLUS ABB=ON   | 9/SC,SX                     |
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| L16 | 8921   | SEA FILE=CAPLUS ABB=ON   | L7/D                |
| L30 | 811992 | SEA FILE=CAPLUS ABB=ON   | 9/SC, SX            |
| L34 | 7      | SEA FILE=CAPLUS ABB=ON   | L16 AND L12 AND L30 |

=> s 115,122,124,126,132,133,134 not 144,119  
L46 40 (L15 OR L22 OR L24 OR L26 OR L32 OR L33 OR L34) NOT (L44 OR L19)  
L44,L19 WERE PREVIOUSLY PRINTED

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=> d ibib abs hitind hitstr 146 1-40; fil hom
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L46 ANSWER 1 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2008190723 CAPLUS Full-text  
 DOCUMENT NUMBER: 148:246486  
 TITLE: Multifunctional magnetic composites for stem cell therapy and/or tissue diagnostics  
 PATENT ASSIGNEE(S): Mueller-Schulte, Detlef, Germany  
 SOURCE: Ger. Offen., 19pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.      | KIND | DATE     | APPLICATION NO.      | DATE     |
|-----------------|------|----------|----------------------|----------|
| DE 102006037702 | A1   | 20080214 | DE 2006-102006037702 | 20060811 |

PRIORITY APPLN. INFO.: DE 2006-102006037702 20060811

AB The invention concerns multifunctional polymer carriers that encapsulate magnetic colloids and active substances, e.g. growth factors; stem cells and target receptor-recognizing ligands are coupled onto the surface of the magnetic composites. Due to their specific recognizing features the multifunctional carriers can bind to stem cells and target tissues thus allowing for cell and tissue-specific therapy of various diseases. The effect of the therapy can be enhanced by homing the magnetic stem cell composites with a static magnetic field to the target tissues/cells. Active substance dissoln. can be promoted with high frequency magnetic field and/or ultrasound. Thus a solution of celluloseacetate butyrate in p-xylol and 2-butanol was prepared To the solution a magnetic colloid (medium particles size 74 nm) that was stabilized with oleic acid was added; the obtained suspension was mixed with a mixture of 2-hydroxyethyl methacrylate, glycidyl methacrylate, ethylene dimethacrylate and 2,2'- azobisisobutyronitrile). Polymerization was carried out in nitrogen atmospheric; formed particles were isolated, washed and functionalized with diethylamine in an ethanol-DMSO mixture Functionalized magnetic composites were dried under sterile conditions and used for binding multipotent adult progenitor cells from a culture medium. Unbound cells were separated; magnet-bound stem cells could be used for injections or infusions.

CC 63-6 (Pharmaceuticals)  
 Section cross-reference(s): 3

IT Alzheimer's disease

Arthritis

Bone marrow, disease

Burn

Curie temperature (ferroelectric)

Cytotoxic agents

Diabetes mellitus

Diagnostic agents

Dissolution

Ferromagnetic materials

Genetic vectors

Heart, disease

Hematopoietic precursor cell

Immobilization, molecular or cellular

Infusion drug delivery systems

Kidney, disease

Liver, disease

Magnetic field effects

Neoplasm

Osteoarthritis

Parkinson's disease

Particle size

Pharmaceutical injections

Plasmids

Sound and Ultrasound

Stem cell

Viscosity

(multifunctional magnetic composites for stem cell therapy and/or tissue diagnostics)

- IT 79-06-1D, Acrylamide, polymers 79-10-7D, Acrylic acid, polymers  
 79-41-4D, Methacrylic acid, polymers 107-02-8D, Acrolein, polymers  
 818-61-1D, polymers 2210-25-5D, N-Isopropylacrylamide, polymers  
 7440-02-0, Nickel, biological studies 7440-50-8, Copper, biological studies  
 7631-86-9, Silica, biological studies 9000-69-5,  
 Pectin 9002-89-5, Polyvinylalcohol 9002-98-6, Polyethylenimine  
 9003-05-8D, Polyacrylamide, N-substituted 9003-11-6, Ethylene  
 oxide-propylene oxide copolymer 9004-34-6, Cellulose, biological studies  
 9004-34-6D, Cellulose, derivs. 9004-54-0, Dextran, biological studies  
 9004-54-0D, Dextran, grafts with polyamino acids or polyethylene glycol  
 alkyl ethers 9004-61-9, Hyaluronic acid 9004-64-2,  
 Hydroxypropylcellulose 9005-32-7, Alginic acid 9005-49-6, Heparin,  
 biological studies 9012-36-6, Agarose 9012-76-4, Chitosan 9042-14-2,  
 Dextransulfate 9057-02-7, Pullulan 24980-41-4, Poly- $\epsilon$ -  
 caprolactone 25014-12-4, Polymethacrylamide 25068-14-8, Polyacrolein  
 25189-55-3, Poly-N-isopropylacrylamide 25189-55-3D, Poly-N-  
 isopropylacrylamide, N-substituted 25248-42-4, Poly[oxy(1-oxo-1,6-  
 hexanediyil)] 25322-68-3D, Polyethylene glycol, ethers, grafts with  
 dextran 26009-03-0, Polyglycolide 26023-30-3, Poly[oxo(1-methyl-2-oxo-  
 1,2-ethanediyl)] 26202-08-4, Polyglycolide 26680-10-4, Polylactide  
 94196-72-2 229175-35-3, Iron nickel zinc oxide (Fe2Ni0.24Zn0.76O4)  
 RL: DGN (Diagnostic use); TEM (Technical or engineered material use); THU  
 (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (multifunctional magnetic composites for stem cell therapy and/or  
 tissue diagnostics)
- IT 79-06-1D, Acrylamide, polymers 7631-86-9, Silica,  
 biological studies  
 RL: DGN (Diagnostic use); TEM (Technical or engineered material use); THU  
 (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (multifunctional magnetic composites for stem cell therapy and/or  
 tissue diagnostics)
- RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



DOCUMENT NUMBER: 148:263385  
 TITLE: Method for manufacture of monodisperse nanoscale/microscopic polymer hollow microsphere  
 INVENTOR(S): Yang, Xinlin; Liu, Guangyu; Li, Guoliang; Bai, Feng;  
 Huang, Bo  
 PATENT ASSIGNEE(S): Nankai University, Peop. Rep. China  
 SOURCE: Faming Zhanli Shenqing Gongkai Shuomingshu, 10pp.  
 CODEN: CNXXEV  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Chinese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO.  | DATE     |
|---|------|----------|------------------|----------|
| CN 101113183  | A    | 20080130 | CN 2007-10057065 | 20070403 |
| PRIORITY APPLN. INFO.:  |      |          | CN 2007-10057065 | 20070403 |
| AB The inner particle diameter, and wall thickness of the title hollow microspheric resin is 10 nm-10 $\mu\text{m}$ and 10-500 nm, resp. The regular hollow microsphere is homopolymer of polyene monomers, or 20-100% crosslinked copolymer of polyene monomers and other functional vinyl monomers. The preparation method comprises: (1) distilling monomers in the presence of a template, and (2) precipitating for polymerization to obtain monodisperse polymer hollow microspheres with different inner particle diams. and wall thicknesses. The product is used in controlled delivery and release systems of dyes, cosmetics, drugs, enzymes and proteins, or is used as carrier of light fillers, nano/micro containers, low dielec. constant materials and catalysts. The product is also applied in artificial cells, disease diagnosis and biol. substance separation  |      |          |                  |          |
| CC 37-3 (Plastics Manufacture and Processing)<br>Section cross-reference(s): 6, 7, 9, 41, 62, 63  |      |          |                  |          |
| IT 79-06-1DP, Acrylamide, polymers 79-10-7DP, Acrylic acid, polymers 80-62-6DP, Methyl methacrylate, polymers 88-12-0DP, polymers 96-33-3DP, Methyl acrylate, polymers 100-43-6DP, 4-Vinylpyridine, polymers 106-91-2DP, 2,3-Epoxypropyl methacrylate, polymers 110-26-9DP, Methylenebisacrylamide, polymers 1321-74-0DP, Divinylbenzene, polymers 2210-25-5DP, Isopropylacrylamide, polymers 2274-11-5DP, Ethylene glycol diacrylate, polymers 5459-38-1DP, Glycerol triacrylate, polymers 9003-69-4P, Poly(divinylbenzene) 9017-37-2P, Divinylbenzene-methyl methacrylate copolymer 9017-40-7P, Divinylbenzene-4-vinylpyridine copolymer 9058-17-7P, Divinylbenzene-N-vinylpyrrolidone copolymer 25249-16-5P 26949-19-9P, Poly(N,N'-methylenebisacrylamide) 31693-08-0P, Ethylene glycol methacrylate-methacrylic acid copolymer 50602-21-6P, Divinylbenzene-methacrylic acid copolymer 61722-10-9P, Acrylamide-divinylbenzene copolymer 118496-58-5P 331249-49-1P<br>RL: BUU (Biological use, unclassified); CAT (Catalyst use); IMF (Industrial manufacture); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)<br>(manufacture of monodisperse nanoscale-microscopic vinyl polymer hollow microsphere) |      |          |                  |          |
| IT 7631-86-9, Silica, uses 9003-01-4, Poly(acrylic acid)<br>RL: NUU (Other use, unclassified); USES (Uses)<br>(template; manufacture of monodisperse nanoscale-microscopic vinyl polymer hollow microsphere)  |      |          |                  |          |
| IT 79-06-1DP, Acrylamide, polymers<br>RL: BUU (Biological use, unclassified); CAT (Catalyst use); IMF (Industrial manufacture); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  |      |          |                  |          |

## (Uses)

(manufacture of monodisperse nanoscale-microscopic vinyl polymer hollow microsphere)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



IT 7631-86-9, Silica, uses

RL: NUU (Other use, unclassified); USES (Uses)

(template; manufacture of monodisperse nanoscale-microscopic vinyl polymer hollow microsphere)

RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)



L46 ANSWER 3 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 20071275526 CAPLUS Full-text

DOCUMENT NUMBER: 147:517680

TITLE: Analyte-releasing beads and use thereof in quantitative ELISpot or fluorispot assay

INVENTOR(S): Zand, Martin S.; Henn, Alicia D.

PATENT ASSIGNEE(S): University of Rochester, USA

SOURCE: PCT Int. Appl., 49pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND   | DATE     | APPLICATION NO. | DATE     |
|---------------|--|----------|-----------------|----------|
| WO 2007127981 | A2   | 20071108 | WO 2007-US67801 | 20070430 |
| W:            | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MM, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW |          |                 |          |
| RW:           | AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM   |          |                 |          |

PRIORITY APPLN. INFO.: US 2006-745982P P 20060428

AB The present invention relates to a method of quantifying analyte secreted by a cell or released from a drug delivery vehicle, typically by ELISpot or fluorispot assay. Quantification is possible through the use of an analyte-releasing reagent that includes a bead and the analyte releasably bound to the bead, or a container pre-spotted with analyte released from the reagent. The

reagent or pre-spotted containers can be used to provide a standard curve for release of the analyte. By detecting analyte secreted by one or more cells or drug released by a drug delivery vehicle, and comparing the detected analyte to the standard curve, it is possible to quantify the amount of analyte released by the one or more cells or drug released by the drug delivery vehicle. Kits and reagents for practicing the methods of the present invention are also disclosed.

- CC 9-10 (Biochemical Methods)  
 Section cross-reference(s): 15, 64  
 IT Flow cytometry  
 Human  
 Imaging  
 Immobilization, molecular or cellular  
 Test kits  
 (analyte-releasing beads and use thereof in quant. ELISpot or fluorispot assay)  
 IT 79-06-1, Acrylamide, reactions 88-12-0, reactions 106-99-0, Butadiene, reactions 107-11-9, Allylamine 110-16-7, Maleic acid, reactions 1333-41-1, Methylpyridine 1337-81-1, Vinylpyridine 9002-98-6 9003-07-0, Polypropylene 9003-20-7, Polyvinyl acetate 9003-53-6, Polystyrene 9004-34-6, Cellulose, reactions 9004-54-0, Dextran, reactions 9012-76-4, Chitosan 9057-02-7, Pullulan 18358-13-9, Methacrylate, reactions 25322-68-3, Polyethylene glycol 26913-06-4, Poly[imino(1,2-ethanediyl)] 30969-75-6, Oxazoline 33611-56-2  
 RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)  
 (bead coated with, for binding linker; analyte-releasing beads and use thereof in quant. ELISpot or fluorispot assay)  
 IT 7631-86-9, Silica, biological studies  
 RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); TEM (Technical or engineered material use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (bead of; analyte-releasing beads and use thereof in quant. ELISpot or fluorispot assay)  
 IT 79-06-1, Acrylamide, reactions  
 RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)  
 (bead coated with, for binding linker; analyte-releasing beads and use thereof in quant. ELISpot or fluorispot assay)  
 RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



- IT 7631-86-9, Silica, biological studies  
 RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); TEM (Technical or engineered material use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
 (bead of; analyte-releasing beads and use thereof in quant. ELISpot or fluorispot assay)  
 RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)

0—51—0

L46 ANSWER 4 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2007:1263499 CAPLUS Full-text  
 DOCUMENT NUMBER: 148:99332  
 TITLE: Retention studies of acrylamide for the design of a robust liquid chromatography-tandem mass spectrometry method for food analysis  
 AUTHOR(S): Rosen, Johan; Nyman, Arne; Hellénæs, Karl-Erik  
 CORPORATE SOURCE: National Food Administration, Uppsala, SE-751 26, Swed.  
 SOURCE: Journal of Chromatography, A (2007), 1172(1), 19-24  
 CODEN: JCRAEY; ISSN: 0021-9673  
 PUBLISHER: Elsevier B.V.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB A wide range of solid phases for SPE (solid-phase extraction) ( $n = 14$ ) and HPLC ( $n = 9$ ) were compared regarding the chromatog. retention of acrylamide. For SPE, a hydroxylated polystyrene-divinylbenzene copolymer phase (ENV+) gave the strongest retention. Twenty milliliter of water per g solid phase could be passed with less than 5% loss of acrylamide from the column, thus enabling significant enrichment of food exts. Other polymer phases gave varying degrees of retention, while silica bonded phases gave low retention. For HPLC, columns were evaluated both in reversed-phase and aqueous normal-phase (hydrophilic interaction chromatog.) modes. The best retention was obtained with a phase comprising porous graphitic carbon (Hypercarb), giving a  $k$ -value of 4 with water as the mobile phase. Based on these investigations, a method for anal. of acrylamide in food using liquid chromatog.-tandem mass spectrometry was designed to meet the demands of a collaborative validation trial. A comparative investigation of solid phases has not been published earlier. Thus, the paper should provide a base for new method developments regarding clean-up, enrichment and chromatog. of acrylamide. In addition, the detailed standard operating procedure (SOP) method, as used in a collaborative validation trial, is provided as an electronic supplement ([www.elsevier.com](http://www.elsevier.com)).  
 CC 17-1 (Food and Feed Chemistry)  
 ST acrylamide food analysis solid phase extrn; HPLC MSMS  
 acrylamide food analysis  
 IT Graphitized carbon black  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (Carbograph4 and Carboprep 200; acrylamide retention during food anal.  
 by HPLC-MS-MS after solid phase extraction)  
 IT Mass spectrometry  
 (HPLC combined with; acrylamide retention during food anal. by  
 HPLC-MS-MS after solid phase extraction)  
 IT Food analysis  
 Reversed phase HPLC  
 Tandem mass spectrometry  
 (acrylamide retention during food anal. by HPLC-MS-MS after  
 solid phase extraction)  
 IT HPLC  
 (mass spectrometry combined with; acrylamide retention during food  
 anal. by HPLC-MS-MS after solid phase extraction)  
 IT Extraction  
 (solid-phase; acrylamide retention during food  
 anal. by HPLC-MS-MS after solid phase extraction)  
 IT 7631-66-9, Nucleosil 50-5, analysis  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(Nucleosil 50-5; acrylamide retention during food anal. by HPLC-MS-MS after solid phase extraction)

IT 79-06-1, Acrylamide, analysis  
 RL: ANT (Analyte); POL (Pollutant); PRP (Properties); ANST (Analytical study); OCCU (Occurrence)  
 (acrylamide retention during food anal. by HPLC-MS-MS after solid phase extraction)

IT 9003-70-7, Atoll XC 9058-17-7, Oasis HLB 93050-63-6, Bond-Elut C18 119683-99-7, Hypercarb 145268-35-5, Bond-Elut SCX 151687-93-3, Bond-Elut Certify 190976-12-6, Isolute C18 200644-97-9, Isolute ENV+ 201234-27-7, Bond-Elut PPL 260062-50-8, Aquasil C 18 459428-33-2, Genesis AQ 545351-92-6, Synergi Polar RP 578730-36-6, Ace CN 657401-54-2, HyPURITY Aquastar 700373-26-8, Strata X-C 847671-83-4, ZIC-HILIC 960133-21-5, Cogent Bidentate C18 1000381-16-7, Bond Elut Certify II 1000381-17-8, Isolute Multimode 1000381-18-9, Atoll AEV  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (acrylamide retention during food anal. by HPLC-MS-MS after solid phase extraction)

IT 7631-96-9, Nucleosil 50-5, analysis  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (Nucleosil 50-5; acrylamide retention during food anal. by HPLC-MS-MS after solid phase extraction)

RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



IT 79-06-1, Acrylamide, analysis  
 RL: ANT (Analyte); POL (Pollutant); PRP (Properties); ANST (Analytical study); OCCU (Occurrence)  
 (acrylamide retention during food anal. by HPLC-MS-MS after solid phase extraction)

RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



L46 ANSWER 5 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2007:1212409 CAPLUS Full-text  
 DOCUMENT NUMBER: 147:484943  
 TITLE: Compositions and methods for human metapneumovirus monoclonal antibodies  
 INVENTOR(S): Gerna, Giuseppe; Sarasini, Antonella; Revello, Maria Grazia  
 PATENT ASSIGNEE(S): Diagnostic Hybrids, Inc., USA  
 SOURCE: U.S. Pat. Appl. Publ., 21pp.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE     |
|------------------------|------|----------|-----------------|----------|
| US 2007248962          | A1   | 20071025 | US 2006-409600  | 20060424 |
| PRIORITY APPLN. INFO.: |      |          | US 2006-409600  | 20060424 |

**AB** The present invention discloses specific human metapneumovirus monoclonal antibodies. The antibody is at least two-fold less reactive with non-human metapneumoviruses including, but not limited to, respiratory viruses or avian metapneumoviruses. Further, the antibody is at least two-fold more reactive with a human metapneumovirus (i.e., for example, Type A or Type B) than with non-human metapneumoviruses including, but not limited to, respiratory viruses or avian metapneumoviruses. Consequently, these novel antibodies are useful as a clin. diagnostic agent, especially when using fresh nasopharyngeal aspirates. The invention also contemplates numerous diagnostic platforms that together with the novel antibodies can support economical, fast, and highly selective detection and identification of clin. inoculum samples.

INCL 435006000; 435069100

CC 15-1 (Immunochemistry)

Section cross-reference(s): 9, 14

IT Diagnosis

Electric field

Epitopes

Ferrofluids

Human

Human metapneumovirus

Immunization

Immunoassay

Isotope indicators

Microfluidic devices

Mouse

Mus musculus

Solid phase synthesis supports

Spleen

Test kits

Turkey rhinotracheitis virus

(monoclonal antibodies for diagnosis of human metapneumovirus infections)

IT 79-06-1, Acrylamide, biological studies 7631-86-9,

Silica, biological studies 9004-34-6, Cellulose, biological studies

9004-54-0, Dextran, biological studies

RL: DGN (Diagnostic use); BIOL (Biological study); USES (Uses)  
(monoclonal antibodies for diagnosis of human metapneumovirus infections)

IT 79-06-1, Acrylamide, biological studies 7631-86-9,

Silica, biological studies

RL: DGN (Diagnostic use); BIOL (Biological study); USES (Uses)  
(monoclonal antibodies for diagnosis of human metapneumovirus infections)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)

0—51—0

L46 ANSWER 6 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2007:1116737 CAPLUS Full-text  
 DOCUMENT NUMBER: 147:422484  
 TITLE: Method for immobilization of proteins by covalent attachment to substrate after posttranslational modification of cysteine residues  
 INVENTOR(S): Poulter, Charles Dale; Labadie, Guillermo Roberto; Gauthet, Cecile; Bohaty, Rochelle Frances Hawkins  
 PATENT ASSIGNEE(S): University of Utah Research Foundation, USA  
 SOURCE: PCT Int. Appl., 31pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| WO 2007112007   | A2   | 20071004 | WO 2007-US7257  | 20070322 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW<br>RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |          |

PRIORITY APPLN. INFO.: US 2006-785249P P 20060322

AB The invention relates to the field of covalently attaching proteins to a substrate, particularly to methods of immobilizing proteins by posttranslationally modifying a cysteine residue of said protein through the addition of functional groups. The invention also relates to biol. mols. used in such techniques, including proteins, and detection methods and kits that utilize such immobilized proteins, such as a microdevice or "protein chip", a high-throughput screening device, and for the microscopy of proteins on a surface.

CC 9-16 (Biochemical Methods)

Section cross-reference(s): 3

IT Immobilization, molecular or cellular

(protein; method for immobilization of proteins by covalent attachment to substrate after posttranslational modification of cysteine residues)

IT 79-06-1, Acrylamide, uses 1306-24-7, Cadmium selenide, uses 1314-98-3, Zinc sulfide, uses 1344-28-1, Aluminum oxide, uses 7429-90-5, Aluminum, uses 7440-06-4, Platinum, uses 7440-21-3, Silicon, uses 7440-22-4, Silver, uses 7440-50-8, Copper, uses 7631-86-9, Silica, uses 9012-36-6, Agarose 12033-89-5, Silicon nitride, uses 13463-67-7, Titanium dioxide, uses 130727-41-2D, reaction products with gold 951316-29-3D, reaction products with gold RL: TEM (Technical or engineered material use); USES (Uses)

(method for immobilization of proteins by covalent attachment to substrate after posttranslational modification of cysteine residues)

IT 79-96-1, Acrylamide, uses 7631-86-9, Silica, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (method for immobilization of proteins by covalent attachment to  
 substrate after posttranslational modification of cysteine residues)  
 RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



L46 ANSWER 7 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2007:113730 CAPLUS Full-text  
 DOCUMENT NUMBER: 146:190709  
 TITLE: Hemofilters comprising a cyclodextrin covalently bound  
 solid support for blood  
 detoxification  
 INVENTOR(S): Graziani, Giorgio; Naggi, Annamaria; Torri,  
 Giangiacomo  
 PATENT ASSIGNEE(S): Humanitas Mirasole S.p.A., Italy; Istituto di Ricerche  
 Chimiche e Biochimiche Giuliana Ronzoni  
 SOURCE: PCT Int. Appl., 35pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE       |
|---|------|----------|-----------------|------------|
| WO 2007013122   | A1   | 20070201 | WO 2006-IT583   | 20060727   |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,<br>CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,<br>GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,<br>KR, KZ, LA, LC, LK, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,<br>MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU,<br>SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG,<br>US, UZ, VC, VN, ZA, ZM, ZW |      |          |                 |            |
| RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,<br>IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,<br>CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,<br>GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,<br>KG, KZ, MD, RU, TJ, TM  |      |          |                 |            |
| EP 1752171  | A1   | 20070214 | EP 2005-425561  | 20050728   |
| R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,<br>IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL,<br>BA, HR, MK, YU   |      |          |                 |            |
| AU 2006273606   | A1   | 20070201 | AU 2006-273606  | 20060727   |
| PRIORITY APPLN. INFO.:  |      |          | EP 2005-425561  | A 20050728 |

- AB The present invention regards the use of hemofilters for the removal of bacterial toxins (lipopolysaccharides) from the blood, said hemofilters comprising a solid support to which cyclodextrins are covalently bonded. The solid support can be a fabric or non-woven fabric or a polymeric resin obtained by means of crosslinking of the cyclodextrins with appropriate crosslinking agents, for example epichlorohydrin. Biol. activity of supported cyclodextrins were assayed. Cyclodextrins crosslinked with epichlorohydrin, silica coated with polyethylenimines derivatized with CD, and polypropylene support derivatized with  $\beta$ -cyclodextrins were tested.
- CC 63-8 (Pharmaceuticals)
- ST hemofilter cyclodextrin covalent bound solid support  
blood detoxification
- IT Detoxification  
(biol.; hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)
- IT Fibers  
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)  
(cellulosic; hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)
- IT Toxins  
RL: ADV (Adverse effect, including toxicity); REM (Removal or disposal); BIOL (Biological study); PROC (Process)  
(endotoxins; hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)
- IT Polyolefin fibers  
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)  
(ethylene; hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)
- IT Blood  
Crosslinking agents  
Ultrafiltration  
(hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)
- IT Barbiturates  
Lipopolsaccharides  
RL: ADV (Adverse effect, including toxicity); REM (Removal or disposal); BIOL (Biological study); PROC (Process)  
(hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)
- IT Acetate fibers, biological studies  
Polyester fibers, biological studies  
Polypropene fibers, biological studies  
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)  
(hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)
- IT Membrane filters  
(hemofiltration; hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)
- IT 9002-88-4, Polyethylene 9004-34-6, Cellulose, biological studies  
25085-53-4

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(fibers; hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)

IT 7585-39-9,  $\beta$ -Cyclodextrin 7631-86-9, Silica, biological studies 9002-98-6, Polyethylenimine 10016-20-3,  $\alpha$ -Cyclodextrin 12619-70-4, Cyclodextrin 17465-86-0,  $\gamma$ -Cyclodextrin  
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)

IT 79-06-1, Acrylamide, biological studies 79-10-7, Acrylic acid, biological studies 88-12-0, biological studies 106-91-2, Glycidyl methacrylate  
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(linker; hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)

IT 7631-86-9, Silica, biological studies  
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)

RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



IT 79-06-1, Acrylamide, biological studies

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(linker; hemofilters comprising a cyclodextrin covalently bound solid support for blood detoxification)

RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 2007:87127 CAPLUS Full-text  
 DOCUMENT NUMBER: 1461178375  
 TITLE: Preparation of single-stranded templates for nucleic acid sequencing  
 INVENTOR(S): Liu, Xiaohai; Milton, John; Smith, Geoffrey Paul;  
 Barnes, Colin; Rasolonjatovo, Isabelle Marie Julia;  
 Rigatti, Roberto; Wu, Xiaolin; Ost, Tobias William  
 Barr; Worsley, Graham John; Earnshaw, David James;  
 Turcatti, Gerardo; Romieu, Anthony  
 PATENT ASSIGNEE(S): Solexa Limited, UK  
 SOURCE: PCT Int. Appl., 99pp.  
 CODEN: PIXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------|------|----------|-----------------|----------|
| WO 2007010251 | A2   | 20070125 | WO 2006-GB2687  | 20060720 |
| WO 2007010251 | A3   | 20070830 |                 |          |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,  
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,  
 KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,  
 MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU,  
 SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG,  
 US, UZ, VC, VN, ZA, ZM, ZW  
 RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,  
 IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,  
 CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,  
 GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
 KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

PRIORITY APPLN. INFO.: GB 2005-14936 A 20050720

AB Single-stranded templates for a nucleic acid sequencing reaction are generated by (1) providing at least one double-stranded nucleic acid mol., wherein both strands of the double-stranded nucleic acid mol. are attached to a solid support at the 5' end, (2) cleaving one or both strands of the double-stranded nucleic acid mol., and (3) subjecting the cleaved strand(s) to denaturing conditions to remove the portion of the cleaved strand(s) not attached to the solid support. Thereby, a partially or substantially single-stranded template is generated for a nucleic acid sequencing reaction. Clustered arrays may be formed on such solid-supported hydrogels by solid-phase nucleic acid amplification using forward and reverse amplification primers attached to the hydrogel at their 5' ends, leading to the production of clustered arrays of amplification products having a "bridged" structure. The method removes immobilized strands in these "bridged" structure, which are inefficient templates for sequencing. The "linearizing" method does not require cleavage with restriction endonucleases or nicking endonucleases, and is compatible with arrays formed on solid supported polyacrylamide hydrogels. The invention also provides syntheses for acrylamide-based coating of Silex flow cells (i.e., the solid support).

CC 3-1 (Biochemical Genetics)  
 Section cross-reference(s): 35

IT Bond cleavage  
 (of 5'-immobilized nucleic acids from acrylamide-coated solid support; preparation of single-stranded templates for nucleic acid sequencing)  
 IT Photolysis  
 (photochem. bond cleavage, of 5'-immobilized nucleic acids from

acrylamide-coated solid support; preparation of single-stranded templates for nucleic acid sequencing)

IT Bond cleavage  
(photochem., of 5'-immobilized nucleic acids from acrylamide-coated solid support; preparation of single-stranded templates for nucleic acid sequencing)

IT Nucleic acid amplification  
PCR (polymerase chain reaction)  
(solid-phase, linearization of bridged structures formed by; preparation of single-stranded templates for nucleic acid sequencing)

IT 7631-86-9, Silex, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(acrylamide-coated; preparation of single-stranded templates for nucleic acid sequencing)

IT 79-06-1D, Acrylamide, copolymers containing 79-39-0D,  
Methacrylamide, copolymers containing 88-12-0D, copolymers containing 868-77-9D, copolymers containing 9003-05-8, Acrylamide polymers  
RL: TEM (Technical or engineered material use); USES (Uses)  
(solid supported; preparation of single-stranded templates for nucleic acid sequencing)

IT 7631-86-9, Silex, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(acrylamide-coated; preparation of single-stranded templates for nucleic acid sequencing)

RN 7631-86-9 CAPLUS  
CN Silica (CA INDEX NAME)



IT 79-06-1D, Acrylamide, copolymers containing 79-39-0D  
RL: TEM (Technical or engineered material use); USES (Uses)  
(solid supported; preparation of single-stranded templates for nucleic acid sequencing)

RN 79-06-1 CAPLUS  
CN 2-Propenamide (CA INDEX NAME)



L46 ANSWER 9 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2006:1173779 CAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 145:485404  
 TITLE: Structure for separation of physiologically active agent and method for recovering physiologically active agent  
 INVENTOR(S): Nakahama, Kazumichi  
 PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan  
 SOURCE: U.S. Pat. Appl. Publ., 11pp.  
 CODEN: USXKCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

| PATENT NO.             | KIND   | DATE     | APPLICATION NO. | DATE       |
|------------------------|--|----------|-----------------|------------|
| US 2006251610          | A1   | 20061109 | US 2006-412866  | 20060428   |
| JP 2006312117          | A  | 20061116 | JP 2005-134985  | 20050506   |
| PRIORITY APPLN. INFO.: |  |          | JP 2005-134985  | A 20050506 |
| AB                     | The present invention is directed to sep. a physiol. active agent accurately. Then, the present invention provides a structure for separation of a physiol. active agent, comprising a substrate, a substance exhibiting affinity for the physiol. active agent, and a block polymer composed of a segment having a lower critical solution temperature (LCST) and a hydrophilic segment, in which the substance exhibiting affinity and the block polymer are bound to the substrate. The carboxylated block polymer, poly(EO- <i>b</i> -NIPAM)-COOH, was prepared and reacted with N-hydroxyl succinimide and then with aminopropyl silica beads. The polymer-modified beads were reacted with polyethylene glycol glycidyl ether and CuCl <sub>2</sub> to form beads with a block polymer and affinity agent. The beads were dispersed in distilled water at 40° and bovine serum albumin (BSA) was added. The beads with adsorbed BSA were centrifuged. BSA was released from the beads by lowering the temperature to 25° and centrifuging to remove the beads. |          |                 |            |
| INCL                   | 424078300; 435006000   |          |                 |            |
| CC                     | 9-1 (Biochemical Methods)  |          |                 |            |
| IT                     | Immobilization, molecular or cellular<br>(of block polymer and affinity agent; structure having affinity substance and block polymer bound to substrate for separation and recovery of physiol. active agent)  |          |                 |            |
| IT                     | 7631-86-9DP, Silica, reaction products with affinity agent and block polymer<br>RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); DEV (Device component use); NUU (Other use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)<br>(beads; structure having affinity substance and block polymer bound to substrate for separation and recovery of physiol. active agent)   |          |                 |            |
| IT                     | 7631-86-9, Silica, reactions<br>RL: RCT (Reactant); RACT (Reactant or reagent)<br>(beads; structure having affinity substance and block polymer bound to substrate for separation and recovery of physiol. active agent)   |          |                 |            |
| IT                     | 79-06-1, Acrylamide, reactions 2210-25-5, NIPAM 3052-61-7, Benzyl N,N-diethyl dithiocarbamate 6066-82-6, N-Hydroxy succinimide<br>RL: RCT (Reactant); RACT (Reactant or reagent)<br>(structure having affinity substance and block polymer bound to substrate for separation and recovery of physiol. active agent)  |          |                 |            |
| IT                     | 7631-86-9DP, Silica, reaction products with affinity agent and block polymer<br>RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); DEV (Device component use); NUU (Other use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)<br>(beads; structure having affinity substance and block polymer bound to substrate for separation and recovery of physiol. active agent)   |          |                 |            |
| RN                     | 7631-86-9 CAPLUS   |          |                 |            |
| CN                     | Silica (CA INDEX NAME)   |          |                 |            |



IT 7631-86-9, Silica, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (beads; structure having affinity substance and block polymer bound to substrate for separation and recovery of physiol. active agent)  
 RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



IT 79-06-1, Acrylamide, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (structure having affinity substance and block polymer bound to substrate for separation and recovery of physiol. active agent)  
 RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



L46 ANSWER 10 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2006:1992741 CAPLUS Full-text  
 DOCUMENT NUMBER: 146:18926  
 TITLE: HILIC mode separation of polar compounds by monolithic silica capillary columns coated with polyacrylamide  
 AUTHOR(S): Ikegami, Tohru; Fujita, Hiroshi; Horie, Kanta; Hosoya, Ken; Tanaka, Nobuo  
 CORPORATE SOURCE: Department of Polymer Science and Engineering, Kyoto Institute of Technology, Matsugasaki, Sakyo-ku, Kyoto, 606-8585, Japan  
 SOURCE: Analytical and Bioanalytical Chemistry (2006), 386(3), 578-585  
 PUBLISHER: Springer  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB HILIC (hydrophilic interaction liquid chromatog.) mode columns were prepared by an on-column polymerization of acrylamide on a monolithic silica capillary column modified with N-(3-trimethoxysilylpropyl)methacrylamide as the anchor group. The products showed HILIC mode retention characteristics with three times greater permeability and slightly higher column efficiency compared to a com. available amide-type HILIC column packed with 5-μm particles. The selectivity of the monolithic silica-based column was similar to that of the particulate column for each group of solutes towards nucleosides, nucleic bases and carbohydrate derivs., although a considerable difference was observed in the selectivity for the solute groups. Although the retention of solutes based on the polar functionality was much smaller with the monolithic silica columns, which had a smaller phase ratio, than with the particle-packed column, the former can achieve better separation using the high permeability and higher column efficiencies of a longer column.  
 CC 80-4 (Organic Analytical Chemistry)  
 IT HPLC stationary phases  
 (hydrophilic interaction liquid chromatog. separation of polar compds. by

monolithic silica capillary columns coated with polyacrylamide)  
IT 79-06-1, Acrylamide, analysis 681-84-5, Tetramethoxysilane  
919-30-2, 3-Aminopropyltriethoxysilane 7631-86-9, Silica,  
analysis  
RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical  
study); RACT (Reactant or reagent)  
(hydrophilic interaction liquid chromatog. separation of polar compds. by  
monolithic silica capillary columns coated with polyacrylamide)  
IT 79-06-1, Acrylamide, analysis 7631-86-9, Silica,  
analysis  
RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical  
study); RACT (Reactant or reagent)  
(hydrophilic interaction liquid chromatog. separation of polar compds. by  
monolithic silica capillary columns coated with polyacrylamide)  
RN 79-06-1 CAPLUS  
CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
CN Silica (CA INDEX NAME)



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 11 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2006:817623 CAPLUS [Full-text](#)  
DOCUMENT NUMBER: 145:244534  
TITLE: Method for the photochemical attachment of  
biomolecules to a substrate  
INVENTOR(S): Balakirev, Maxime; Sudor, Jan; Chatelain, Francois;  
Coqueret, Xavier  
PATENT ASSIGNEE(S): Commissariat A L'Energie Atomique, Fr.  
SOURCE: PCT Int. Appl., 41pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|--|------|----------|-----------------|----------|
| WO 2006084482  | A1   | 20060817 | WO 2005-EP2366  | 20050210 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,<br>CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,<br>GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,<br>LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,<br>NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,<br>SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                 |          |
| RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,<br>IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF,   |      |          |                 |          |

CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM,  
 KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG,  
 KZ, MD, RU, TJ, TM

AU 2005327004 A1 20060817 AU 2005-327004 20050210  
 CA 2596807 A1 20060817 CA 2005-2596807 20050210  
 EP 1846759 A1 20071024 EP 2005-715781 20050210  
 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,  
 IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR

PRIORITY APPLN. INFO.: WO 2005-EP2366 A 20050210

AB Methods and devices for attaching biomols. to a solid substrate surface for example to the inner surface of a capillary. In particular, the invention relates to compds. and methods for creating patterned arrays of biomols. inside fused silica capillaries so that a plurality of bioassays can be conducted simultaneously. The method for the grafting of a mol. to a solid substrate where the solid substrate comprises a layer of a linker that has a resistance to the adsorption of the mol., comprises: (a) contacting the solid substrate with a solution wherein the mol. to be grafted and a photosensitizer are solubilized; (b) photo-irradiating at least one part of the solid substrate. Mols. are selected from the list consisting of proteins, nucleic acids and their analogs, sugars, lipids, steroids, enzymes, peptides, glycoproteins. The substrates are glass, silicon, fused silica, polymers, metals, metal oxides and ceramics.

IC ICM G01N033-543

ICS C12Q001-68; C08J007-10

CC 9-16 (Biochemical Methods)

IT Capillary tubes

Cathode ray tubes

Ceramics

Electroluminescent devices

Fluorescence microscopy

Fluorometry

Immobilization, molecular or cellular

Laboratory ware

Lasers

Mass spectrometry

Microarray technology

Microscopes

Photochemistry

Photodiodes

Radiochemical analysis

Solubilization

Surface plasmon resonance

UV radiation

(method for photochem. attachment of biomols. to a substrate)

IT 79-06-1D, Acrylamide, polymer 5205-93-6D, N-(3-Dimethylamino)propyl)methacrylamide, polymer 7440-21-3, Silicon, uses 7631-86-9, Silica, uses 9003-11-6 30347-69-4 86742-39-4D, N-(3-Aminopropyl)methacrylamide, polymer

RL: DEV (Device component use); USES (Uses)

(method for photochem. attachment of biomols. to a substrate)

IT 79-06-1E, Acrylamide, polymer 7631-86-9, Silica, uses

RL: DEV (Device component use); USES (Uses)

(method for photochem. attachment of biomols. to a substrate)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)

0—Si—O

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 12 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2006:470318 CAPLUS Full-text  
 DOCUMENT NUMBER: 144:463761  
 TITLE: Device and method for purification of biological materials in the presence of insoluble matter using solid phase capturing and filtration  
 INVENTOR(S): Ekenberg, Steven J.; Wood, Keith V.; Engel, Laurie  
 PATENT ASSIGNEE(S): Promega Corp., USA  
 SOURCE: PCT Int. Appl., 59 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE       |
|---|------|----------|-----------------|------------|
| WO 2006053187   | A2   | 20060518 | WO 2005-US40878 | 20051109   |
| WO 2006053187   | A3   | 20061207 |                 |            |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                 |            |
| RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  |      |          |                 |            |
| US 2006105349   | A1   | 20060518 | US 2004-987514  | 20041112   |
| EP 1815226  | A2   | 20070808 | EP 2005-851531  | 20051109   |
| R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU   |      |          |                 |            |
| US 2006281124   | A1   | 20061214 | US 2006-466945  | 20060824   |
| PRIORITY APPLN. INFO.:  |      |          | US 2004-987514  | A 20041112 |
|   |      |          | WO 2005-US40878 | W 20051109 |

AB An apparatus, method and kit for isolating a biomol. from a sample. The sample comprises a complex biol. material, which includes insol. matter. Some embodiments of the apparatus and kit include a reservoir and means for capturing the biomol. either contained within or coupled to the reservoir. The reservoir can have an inner surface, and can be adapted to contain the sample. The apparatus can further include least one of a filter positioned between the means for capturing the biomol. and at least a portion of the inner surface of the reservoir, and an aperture defined in the inner surface of the reservoir.

- Some embodiments of the method include combining the sample, with a solid phase that is adapted to capture the biomol., removing the insol. matter from the sample, and removing the biomol. from the solid phase.
- CC 9-1 (Biochemical Methods)
- Section cross-reference(s): 11, 17, 19, 61
- IT Fusion proteins (chimeric proteins)  
 RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)  
 (GST-containing; device and method for purification of biol. materials in presence of insol. matter using solid phase capturing and filtration)
- IT Proteins  
 RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)  
 (His-tagged; device and method for purification of biol. materials in presence of insol. matter using solid phase capturing and filtration)
- IT Affinity chromatography  
 (IMAC; device and method for purification of biol. materials in presence of insol. matter using solid phase capturing and filtration)
- IT Analytical apparatus  
 (automated; device and method for purification of biol. materials in presence of insol. matter using solid phase capturing and filtration)
- IT Biochemical compounds  
 RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)  
 (biotin-tagged; device and method for purification of biol. materials in presence of insol. matter using solid phase capturing and filtration)
- IT Liquid chromatographic stationary phases  
 (capillary columns; device and method for purification of biol. materials in presence of insol. matter using solid phase capturing and filtration)
- in
- IT Liquid chromatography  
 (capillary; device and method for purification of biol. materials in presence of insol. matter using solid phase capturing and filtration)
- IT Separation  
 (decantation; device and method for purification of biol. materials in presence of insol. matter using solid phase capturing and filtration)
- IT Analytical apparatus
- Animal cell line
  - Anion exchangers
  - Blood analysis
  - Cation exchangers
  - Centrifugation
  - Cytolysis
  - Feces
  - Filters
  - Filtration
  - Food analysis
  - Latex
  - Microtiter plates
  - Plant analysis
  - Pore size
  - Soil analysis

Solubility  
 Urine analysis  
 Viscosity  
 Waters  
     (device and method for purification of biol. materials in presence of insol.  
         matter using solid phase capturing and filtration)

IT Antibodies and Immunoglobulins  
 Antigens  
     RL: ANT (Analyte); ARU (Analytical role, unclassified); NUU (Other use, unclassified); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation); USES (Uses)  
     (device and method for purification of biol. materials in presence of insol.  
         matter using solid phase capturing and filtration)

IT Amino acids, analysis  
 Carbohydrates, analysis  
 DNA  
 Lipids, analysis  
 Nucleic acids  
 Peptides, analysis  
 Phospholipids, analysis  
 Polynucleotides  
 Polysaccharides, analysis  
 RNA  
 mRNA  
     RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)  
     (device and method for purification of biol. materials in presence of insol.  
         matter using solid phase capturing and filtration)

IT Metals, analysis  
     RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified); ANST (Analytical study); USES (Uses)  
     (device and method for purification of biol. materials in presence of insol.  
         matter using solid phase capturing and filtration)

IT Probes (nucleic acid)  
     RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified); ANST (Analytical study); USES (Uses)  
     (device and method for purification of biol. materials in presence of insol.  
         matter using solid phase capturing and filtration)

IT Cell  
     (lysate; device and method for purification of biol. materials in presence of insol. matter using solid phase capturing and filtration)

IT Extraction  
     (solid-phase; device and method for purification of biol. materials in presence of insol. matter using solid phase capturing and filtration)

IT Pipets  
     (tips; device and method for purification of biol. materials in presence of insol. matter using solid phase capturing and filtration)

IT Filtration  
     (vacuum filtration; device and method for purification of biol. materials in presence of insol. matter using solid phase capturing and filtration)

IT 58-85-5DP, Biotin, tagged on biomols.  
 RL: ANT (Analyte); PUR (Purification or recovery); ANST (Analytical study); PREP (Preparation)  
 (device and method for purification of biol. materials in presence of insol.  
 matter using solid phase capturing and filtration)  
 IT 70-18-8, Glutathione, analysis 79-06-1, Acrylamide, analysis  
 7631-86-9, Silica, analysis 9012-36-6, Agarose 146183-25-7  
 RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified);  
 ANST (Analytical study); USES (Uses)  
 (device and method for purification of biol. materials in presence of insol.  
 matter using solid phase capturing and filtration)  
 IT 79-06-1, Acrylamide, analysis 7631-86-9, Silica,  
 analysis  
 RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified);  
 ANST (Analytical study); USES (Uses)  
 (device and method for purification of biol. materials in presence of insol.  
 matter using solid phase capturing and filtration)  
 RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



L46 ANSWER 13 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 20061338272 CAPLUS Full-text  
 DOCUMENT NUMBER: 144:385780  
 TITLE: Methods and compositions for the detection of biological molecules using a two particle complex  
 INVENTOR(S): Bard, Allen J.; Miao, Wujian  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 41 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------|------|----------|-----------------|----------|
| US 2006078912 | A1   | 20060413 | US 2005-159412  | 20050623 |
| AU 2005326758 | A1   | 20060810 | AU 2005-326758  | 20050623 |
| CA 2571283    | A1   | 20060810 | CA 2005-2571283 | 20050623 |
| WO 2006083305 | A2   | 20060810 | WO 2005-US22388 | 20050623 |
| WO 2006083305 | A3   | 20070405 |                 |          |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ,  
 LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,  
 NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,  
 SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,  
 ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,  
 IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF,  
 CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM,  
 KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG,  
 KZ, MD, RU, TJ, TM, AP, EA, EP, OA

EP 1787124 A2 20070523 EP 2005-856844 20050623

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,  
 IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA,  
 HR, LV, MK, YU

CN 101057145 A 20071017 CN 2005-80028420 20050623

JP 2008504528 T 20080214 JP 2007-518295 20050623

IN 2007KN00140 A 20070629 IN 2007-KN140 20070111

KR 2007049631 A 20070511 KR 2007-701519 20070122

PRIORITY APPLN. INFO.: US 2004-581719P P 20040623  
 WO 2005-US22388 W 20050623

AB The invention provides methods of detecting analytes of interest in a sample using electrogenerated chemiluminescence. The invention also provides compns. comprising at least one solid support that entraps or contains an electrogenerated chemiluminescent moiety.

INCL 435006000; 435007100; 530391100; 536024300

CC 9-5 (Biochemical Methods)

Section cross-reference(s): 3

IT Chemiluminescent substances

Fluorometry

Gels

Immobilization, molecular or cellular

Immunoassay

Liposomes

Membranes, nonbiological

Micelles

Nucleic acid hybridization

(methods and compns. for detection of biol. mols. using a two particle complex)

IT 79-06-1, Acrylamide, analysis 1398-61-4, Chitin

7631-86-9, Silica, analysis 9003-07-0, Polypropylene

9003-53-6, Polystyrene 9004-32-4, Carboxymethylcellulose sodium

9004-54-0, Dextran, analysis 9004-61-9, Hyaluronic acid 9004-70-0,

Nitrocellulose 9012-36-6, Agarose 9014-76-0, Sephadex 24937-79-9,

PVDF 71010-52-1D, Gellan, acyl derivs. 104357-56-4

RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)

(methods and compns. for detection of biol. mols. using a two particle complex)

IT 79-06-1, Acrylamide, analysis 7631-86-9, Silica,

analysis

RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)

(methods and compns. for detection of biol. mols. using a two particle complex)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



L46 ANSWER 14 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2006:37215 CAPLUS Full-text  
 DOCUMENT NUMBER: 144:114643  
 TITLE: Antimicrobial surfaces prepared using atom transfer  
       radical polymerization  
 INVENTOR(S): Russell, Alan J.; Koepsel, Richard; Lee, Sang Boem;  
                   Matyjaszewski, Krzysztof  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 19 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE     |
|------------------------|------|----------|-----------------|----------|
| US 2006008490          | A1   | 20060112 | US 2004-887029  | 20040707 |
| PRIORITY APFLN. INFO.: |      |          | US 2004-887029  | 20040707 |

AB The present invention relates to biocidal articles comprising a plurality of polymers having biocidally active groups. The polymers are attached to a surface and may have a polydispersity less than 3. The biocidally active groups may comprise at least one of a quaternary ammonium salt, a quaternary phosphonium salt or a chloramine. The attached polymers may be any microstructure, topo. or composition, such as, a homopolymer, block copolymer, multiblock copolymer, a random copolymer, graft polymer, a branched or a hyperbranched polymer, and a gradient copolymer. The present invention also comprises a process for the preparation of a biocidal article. Embodiments of the process comprise polymerizing radically polymerizable monomers from an initiator attached to a surface, wherein at least a portion of the monomers comprise a group capable of being converted to a biocidally active group, and converting the group to the biocidally active group. Thus, 2-bromoisobutyryl bromide atom transfer radical polymerization initiator was immobilized on filter paper and then treated with the reaction mixture containing 5 g of 2-(dimethylamino)ethyl methacrylate (DMAEMA), 0.035 g of CuBr, 0.070 g of 2,2'-bipyridine and 5 g of 1,2-dichlorobenzene. The polymerization was carried out at 80° for 48 h, followed by quaternization with 5 mL of Et bromide.

INCL 42440200

CC 63-8 (Pharmaceuticals)

Section cross-reference(s): 10, 37

IT Antimicrobial agents

Biocides

Coating materials

Cotton fibers

Filter paper

Immobilization, molecular or cellular  
 Ion exchangers  
 Paper  
 Porcelain  
 Surface  
 Wood  
 Wool  
 (antimicrobial surfaces prepared using atom transfer radical polymerization)  
 IT 79-06-1b, Acrylamide, derivs. 100-43-6, 4-Vinylpyridine 100-69-6, 2-Vinylpyridine 107-13-1, Acrylonitrile, biological studies 108-05-4, Vinyl acetate, biological studies 126-98-7, Methacrylonitrile 868-77-9, 2-Hydroxyethyl methacrylate 1592-20-7, p-Chloromethylstyrene 2867-47-2, 2-(Dimethylamino)ethyl methacrylate 7429-90-5, Aluminum, biological studies 7440-21-3, Silicon, biological studies 7440-57-5, Gold, biological studies 7631-86-9, Silica, biological studies 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-53-6, Polystyrene 9004-34-6, Cellulose, biological studies 10043-37-5, N-Acryloylpiperidine 12597-69-2, Steel, biological studies 42104-70-1, N-Acryloylpyrrolidine  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process);  
 USES (Uses)  
 (antimicrobial surfaces prepared using atom transfer radical polymerization)  
 IT 79-06-1D, Acrylamide, derivs. 7631-86-9, Silica, biological studies  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process);  
 USES (Uses)  
 (antimicrobial surfaces prepared using atom transfer radical polymerization)  
 RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



L46 ANSWER 15 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2005:1259551 CAPLUS Full-text  
 DOCUMENT NUMBER: 144:19169  
 TITLE: Surface acoustic wave sensor comprising a hydrogel  
 INVENTOR(S): Warthoe, Peter; Soerensen, Iben  
 PATENT ASSIGNEE(S): Atonomics A/S, Den.  
 SOURCE: PCT Int. Appl., 126 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE        |
|---|------|----------|-----------------|-------------|
| WO 2005114166   | A1   | 20051201 | WO 2005-DK334   | 20050520    |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                 |             |
| RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |             |
| AU 2005245996   | A1   | 20051201 | AU 2005-245996  | 20050520    |
| CA 2566962  | A1   | 20051201 | CA 2005-2566962 | 20050520    |
| US 2006024813   | A1   | 20060202 | US 2005-134821  | 20050520    |
| EP 1756562  | A1   | 20070228 | EP 2005-741788  | 20050520    |
| R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR   |      |          |                 |             |
| EP 1804059  | A2   | 20070704 | EP 2007-6848    | 20050520    |
| R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU   |      |          |                 |             |
| JP 2007538236   | T    | 20071227 | JP 2007-516969  | 20050520    |
| PRIORITY APPLN. INFO.:  |      |          | DK 2004-802     | A 20040521  |
|   |      |          | EP 2005-741788  | A3 20050520 |
|   |      |          | WO 2005-DK334   | W 20050520  |

AB The present invention relates generally to methods and compns. for analyzing test samples containing target analytes including proteins and nucleic acids. The invention uses a surface acoustic wave sensor in combination with a hydrogel to obtain an ultra sensitive non-fluorescent detection system.

IC ICM G01N029-02

CC 9-1 (Biochemical Methods)

IT Biosensors

Blood analysis

Blood plasma

Blood serum

Chelating agents

Crosslinking agents

Eukaryota

Gas analysis

Hydrogels

Immobilization, molecular or cellular

Microsensors

Molecular recognition

Polymerization catalysts

Prokaryota

Silylation

Surface acoustic wave sensors

Urine analysis

(methods and compns. for analyzing test samples containing target analytes including proteins and nucleic acids with hydrogel based surface acoustic wave sensor)

IT 71-43-2, Benzene, uses 74-85-1, Ethylene, uses 75-01-4, Vinyl chloride, uses 75-21-8, Ethylene oxide, uses 79-06-1,

Acrylamide, uses 88-12-0, uses 100-42-5, Styrene, uses 107-21-1,  
 Ethylene glycol, uses 108-05-4, Vinyl acetate, uses 109-93-3, Vinyl  
 ether 110-16-7, 2-Butenedioic acid (2Z)-, uses 110-26-9,  
 N,N'-Methylenebisacrylamide 132-64-9, Dibenzofuran 132-65-0,  
 Dibenzothiophene 1344-28-1, Alumina, uses 4151-45-5, Cinnamate, uses  
 7631-86-9, Silicon dioxide, uses 9002-84-0,  
 Polytetrafluoroethylene 9002-86-2, Polyvinyl chloride 9003-53-6,  
 Polystyrene 9011-14-7, Polymethylmethacrylate 10344-93-1, Acrylate,  
 uses 18358-13-9, Methacrylate, uses 24937-79-9, Poly(vinylidene  
 fluoride) 25014-41-9, Polyacrylonitrile 25189-55-3, Poly  
 N-isopropylacrylamide 25721-76-0, Polyethyleneglycoldimethacrylate  
 25852-47-5, Polyethyleneglycoldiacrylate 26570-48-9,  
 Polyethyleneglycoldiacrylate 142862-15-5 870245-59-3

RL: DEV (Device component use); USES (Uses)  
 (hydrogel component; methods and compns. for analyzing test samples  
 containing target analytes including proteins and nucleic acids with  
 hydrogel based surface acoustic wave sensor)

IT 79-06-1, Acrylamide, uses 7631-86-9, Silicon dioxide,  
 uses

RL: DEV (Device component use); USES (Uses)  
 (hydrogel component; methods and compns. for analyzing test samples  
 containing target analytes including proteins and nucleic acids with  
 hydrogel based surface acoustic wave sensor)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 16 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2005:1178067 CAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 143:417248  
 TITLE: Process for the reduction of endotoxins in a plasmid  
 preparation using a carbohydrate non-ionic detergent  
 with silica chromatography  
 INVENTOR(S): Ray, Kevin Bernard; Kreader, Carol Ann; Chen, Fuqiang;  
 Cutter, David Eric  
 PATENT ASSIGNEE(S): Sigma-Aldrich Co., USA  
 SOURCE: U.S. Pat. Appl. Publ., 12 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

|               |    |          |                 |          |
|---------------|----|----------|-----------------|----------|
| US 2005245733 | A1 | 20051103 | US 2005-108317  | 20050418 |
| WO 2005111059 | A2 | 20051124 | WO 2005-US13376 | 20050420 |
| WO 2005111059 | A3 | 20060427 |                 |          |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,  
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ,  
 LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,  
 NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,  
 SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,  
 ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,  
 RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,  
 MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2004-565026P P 20040423

AB The present invention provides methods for the reduction of endotoxins in a plasmid preparation using a carbohydrate non-ionic detergent with silica chromatog. Plasmid isolation was performed from Escherichia coli using alkaline lysis, followed by removal of endotoxin contaminants by chromatog. on either an inorg. or organic binding matrix. A wide range of non-ionic detergents were assayed for effective removal of endotoxins from the plasmid preparation. Plasmid yield, endotoxin contamination, and plasmid transfection efficiency in endotoxin-sensitive HuH7 cells were all used to evaluate this invention, as compared to com. endotoxin removal kits.

IC ICM C07H021-04  
 ICS C12N015-74

INCL 536025400; 435471000

CC 3-1 (Biochemical Genetics)

IT 79-06-1, Acrylic amide, analysis 1306-06-5, Hydroxyapatite  
 1314-23-4, Zirconium oxide, analysis 1344-28-1, Aluminum oxide, analysis  
 7631-86-9, Silica, analysis 9004-34-6, Cellulose, analysis  
 9004-54-0, Dextran, analysis 9012-36-6, Agarose 13463-67-7, Titanium  
 oxide, analysis

RL: AMX (Analytical matrix); ANST (Analytical study)  
 (process for reduction of endotoxins in plasmid preparation using  
 carbohydrate

non-ionic detergent with silica chromatog.)

IT 79-06-1, Acrylic amide, analysis 7631-86-9, Silica,  
 analysis

RL: AMX (Analytical matrix); ANST (Analytical study)  
 (process for reduction of endotoxins in plasmid preparation using  
 carbohydrate

non-ionic detergent with silica chromatog.)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



L46 ANSWER 17 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2005:259501 CAPLUS Full-text  
 DOCUMENT NUMBER: 142:312684  
 TITLE: Biological microarray comprising polymer particles and method of use  
 INVENTOR(S): Leon, Jeffrey W.; Qiao, Tiecheng A.; Landry-Coltrain, Christine J.  
 PATENT ASSIGNEE(S): Eastman Kodak Company, USA  
 SOURCE: U.S. Pat. Appl. Publ., 14 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|--|------|----------|-----------------|----------|
| US 2005064431  | A1   | 20050324 | US 2003-658438  | 20030909 |
| PRIORITY APPLN. INFO.:   |      |          | US 2003-658438  | 20030909 |
| AB The present invention relates to a microarray comprising a support having attached to a surface thereof at least one porous layer, wherein the porous layer comprises a hydrophilic binder and polymer particles. The present invention also relates to a method of using a microarray comprising providing a microarray comprising a support having attached to a surface thereof at least one porous layer, wherein the porous layer comprises a hydrophilic binder and polymer particles; contacting the microarray with biol. targets labeled with optical emission tag; and measuring the signals from the optical emission tag. Polystyrene particles stabilized by vinylsulfone-containing polymers grafted to the surface were prepared by a three-step process. A dispersion of the polymer particles was mixed with a dispersion of Witcobond W-320 and water and the solution was coated and dried on a support of polyethylene resin-coated photog. paper which had been subjected to corona discharge treatment. Goat anti-mouse antibody IgG was spotted onto the polymer particle-coated element and used in a chemiluminescent ELISA for mouse IgG. |      |          |                 |          |
| IC ICM C12Q001-68<br>ICS C07H021-04; C12M001-34  |      |          |                 |          |
| INCL 435006000; 435287200; 536024300   |      |          |                 |          |
| CC 9-1 (Biochemical Methods)   |      |          |                 |          |
| Section cross-reference(s): 15, 35   |      |          |                 |          |
| IT Immobilization, molecular or cellular<br>(of bioaffinity tag to porous layer; biol. microarray comprising porous layer of hydrophilic binder and polymer particles)   |      |          |                 |          |
| IT 7631-86-9, Colloidal silicon dioxide, uses<br>RL: DEV (Device component use); USES (Uses)<br>(colloidal, as hydrophilic binder; biol. microarray comprising porous layer of hydrophilic binder and polymer particles)   |      |          |                 |          |
| IT 79-06-1, Acrylamide, uses 88-12-0, uses 288-32-4, Imidazole, uses 557-75-5, Vinylalcohol, uses 30969-75-6, Oxazoline<br>RL: DEV (Device component use); USES (Uses)<br>(copolymers containing, as hydrophilic binder; biol. microarray comprising porous layer of hydrophilic binder and polymer particles)   |      |          |                 |          |
| IT 7631-86-9, Colloidal silicon dioxide, uses<br>RL: DEV (Device component use); USES (Uses)<br>(colloidal, as hydrophilic binder; biol. microarray comprising porous layer of hydrophilic binder and polymer particles)   |      |          |                 |          |
| RN 7631-86-9 CAPLUS  |      |          |                 |          |
| CN Silica (CA INDEX NAME)  |      |          |                 |          |

O S i O

IT 79-06-1, Acrylamide, uses

RL: DEV (Device component use); USES (Uses)

(copolymers containing, as hydrophilic binder; biol. microarray comprising porous layer of hydrophilic binder and polymer particles)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



L46 ANSWER 18 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005121095 CAPLUS Full-text

DOCUMENT NUMBER: 142:172863

TITLE: Methods for separating unincorporated deoxyribonucleotide triphosphates or salts from DNA or purification of other analytes using coated magnetic hydroxylapatite beads

INVENTOR(S): Goldsborough, Andrew

PATENT ASSIGNEE(S): Cyclops Genome Sciences Limited, UK

SOURCE: PCT Int. Appl., 42 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO.                                  | DATE                                   |
|---|------|----------|--|--|
| WO 2005012522   | A1   | 20050210 | WO 2004-GB3201                                   | 20040723                               |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |  |  |
| RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |  |  |
| EP 1649016  | A1   | 20060426 | EP 2004-743533                                   | 20040723                               |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK   |      |          |  |  |
| JP 2006527993   | T    | 20061214 | JP 2006-520900                                   | 20040723                               |
| PRIORITY APPLN. INFO.:  |      |          | GB 2003-17199<br>GB 2003-19422<br>WO 2004-GB3201 | A 20030723<br>A 20030819<br>W 20040723 |

AB The present invention provides a material for separating an analyte from an undesired constituent, which material comprises a solid phase and a coating, wherein the solid phase is capable of binding the undesired constituent, and

wherein the coating covers the exposed surface of the solid phase to an extent that any binding of the solid phase to the analyte is impeded. In particular, it provides methods for separating unincorporated deoxyribonucleotide triphosphates from DNA or purification of other analytes prior to anal. using coated magnetic hydroxylapatite beads.

- IC ICM C12N015-10
- ICS C12Q001-68; G01N033-50
- CC 9-1 (Biochemical Methods)
- Section cross-reference(s): 3
- IT Acrylic polymers, uses
  - Glass, uses
  - Metals, uses
  - Oxides (inorganic), uses
  - Polyamides, uses
  - Polycarbonates, uses
  - Polyesters, uses
  - Polyurethanes, uses
  - Rubber, uses
  - Silts, uses
- RL: DEV (Device component use); USES (Uses)
  - (as solid phase; methods for separating unincorporated deoxyribonucleotide triphosphates or salts from DNA or purification of other analytes using coated magnetic hydroxylapatite beads)
- other
  - analytes using coated magnetic hydroxylapatite beads)
- IT Absorption
- Adsorption
- Affinity
  - (coating attached to solid phase by; methods for separating unincorporated deoxyribonucleotide triphosphates or salts from DNA or purification of other analytes using coated magnetic hydroxylapatite beads)
- IT Bond
  - (covalent, coating attached to solid phase by; methods for separating unincorporated deoxyribonucleotide triphosphates or salts from DNA or purification of other analytes using coated magnetic hydroxylapatite beads)
- IT Bond
  - (hydrophobic, coating attached to solid phase by; methods for separating unincorporated deoxyribonucleotide triphosphates or salts from DNA or purification of other analytes using coated magnetic hydroxylapatite beads)
- IT Bond
  - (ionic, coating attached to solid phase by; methods for separating unincorporated deoxyribonucleotide triphosphates or salts from DNA or purification of other analytes using coated magnetic hydroxylapatite beads)
- IT Containers
- Pipes and Tubes
  - (solid phase attached to; methods for separating unincorporated deoxyribonucleotide triphosphates or salts from DNA or purification of other analytes using coated magnetic hydroxylapatite beads)
- IT Chelating agents
  - (solid phase binding to; methods for separating unincorporated deoxyribonucleotide triphosphates or salts from DNA or purification of other analytes using coated magnetic hydroxylapatite beads)
- IT Filters
- Gels
- Liquid chromatography
- Membranes, nonbiological
- Particles

## Powders

(solid phase; methods for separating unincorporated deoxyribonucleotide triphosphates or salts from DNA or purification of

other

analytes using coated magnetic hydroxylapatite beads)

## IT Pipets

(tip, solid phase as lining of; methods for separating unincorporated deoxyribonucleotide triphosphates or salts from DNA or purification of other analytes using coated magnetic hydroxylapatite beads)

IT

79-06-1, Acrylamide, uses 1306-05-4, Fluorapatite 7429-90-5D,

Aluminum, salts or oxides 7439-89-6D, Iron, salts or oxides

7439-92-1D, Lead, salts or oxides 7439-93-2D, Lithium, salts or oxides

7439-95-4D, Magnesium, salts or oxides 7439-96-5D, Manganese, salts or oxides 7439-98-7D, Molybdenum, salts or oxides 7440-02-0D, Nickel,

salts or oxides 7440-05-3D, Palladium, salts or oxides 7440-06-4D,

Platinum, salts or oxides 7440-22-4D, Silver, salts or oxides

7440-31-5D, Tin, salts or oxides 7440-33-7D, Tungsten, salts or oxides

7440-46-2D, Cesium, salts or oxides 7440-47-3D, Chromium, salts or

oxides 7440-50-8D, Copper, salts or oxides 7440-55-3D, Gallium, salts or oxides 7440-56-4D, Germanium, salts or oxides 7440-57-5D, Gold,

salts or oxides 7440-62-2D, Vanadium, salts or oxides 7440-66-6D,

Zinc, salts or oxides 7440-70-2, Calcium, uses 7631-86-9,

Silica, uses 7782-49-2D, Selenium, salts or oxides 9002-86-2,

Polyvinyl chloride 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-53-6, Polystyrene 9004-70-0, Nitrocellulose 9012-36-6, Agarose

14808-60-7, Quartz, uses

RL: DEV (Device component use); USES (Uses)

(as solid phase; methods for separating unincorporated deoxyribonucleotide triphosphates or salts from DNA or purification of

other

analytes using coated magnetic hydroxylapatite beads)

IT

79-06-1, Acrylamide, uses 7631-36-9, Silica, uses

RL: DEV (Device component use); USES (Uses)

(as solid phase; methods for separating unincorporated deoxyribonucleotide triphosphates or salts from DNA or purification of

other

analytes using coated magnetic hydroxylapatite beads)

RN

79-06-1 CAPLUS

CN

2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
CN Silica (CA INDEX NAME)



REFERENCE COUNT:

6

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 19 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 2004:856907 CAPLUS Full-text  
DOCUMENT NUMBER: 141:356031

TITLE: Functionalized nanotubes  
 INVENTOR(S): Fischer, Alan; Hoch, Robert; Moy, David; Lu, Ming;  
 Martin, Mark; Niu, Chun Ming; Ogata, Naoya; Tennent,  
 Howard; Dong, Liwen; Sun, Ji; Helms, Larry; Jameison,  
 Fabian; Liang, Pam; Simpson, David  
 PATENT ASSIGNEE(S): Hyperion Catalysis International, Inc., USA  
 SOURCE: U.S. Pat. Appl. Publ., 50 pp., Cont.-in-part of U.S.  
 Ser. No. -594,673.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 5  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE        |
|------------------------|------|----------|-----------------|-------------|
| US 2004202603          | A1   | 20041014 | US 2004-837125  | 20040430    |
| US 6203814             | B1   | 20010320 | US 1994-352400  | 19941208    |
| US 2006193868          | A1   | 20060831 | US 2006-412350  | 20060426    |
| PRIORITY APPLN. INFO.: |      |          | US 1994-352400  | A3 19941208 |
|                        |      |          | US 1996-611368  | B1 19960306 |
|                        |      |          | US 1996-37238P  | P 19960925  |
|                        |      |          | US 1997-812856  | B1 19970306 |
|                        |      |          | US 2000-594673  | A2 20000616 |

**AB** The invention describes graphitic nanotubes, which includes tubular fullerenes (commonly called "buckytubes") and fibrils, which are functionalized by chemical substitution or by adsorption of functional moieties. More specifically the invention relates to graphitic nanotubes which are uniformly or non-uniformly substituted with chemical moieties or upon which certain cyclic compds. are adsorbed and to complex structures comprised of such functionalized nanotubes linked to one another. The invention also relates to methods for introducing functional groups onto the surface of such nanotubes. The invention further relates to uses for functionalized nanotubes.

**IC** ICM D01F009-12  
 ICS C07C063-333

**INCL** 423447200; 562492000; 564426000

**CC** 66-4 (Surface Chemistry and Colloids)  
 Section cross-reference(s): 7

**IT** Solid phase synthesis  
 (peptide; surface functionalization of carbon nanotubes and fibrils for substance immobilization)

**IT** Affinity chromatographic stationary phases

Functional groups

Surface reaction

(surface functionalization of carbon nanotubes and fibrils for enzyme immobilization)

**IT** 7631-86-9P, Silica, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of silica-carbon fibril composite)

**IT** 56-87-1DP, L-Lysine, carbon fibril bonded, preparation 58-85-5DP,  
 Biotin, surface reaction product with carbon fibrils 60-24-2DP,  
 Monothiobutylene glycol, surface reaction product with carbon nanotubes and fibrils 75-89-8DP, 2,2,2-Trifluoroethanol, surface reaction product with carbon nanotubes and fibrils 79-05-1DP, 2-Propenamide, surface reaction product with carbon nanotubes and fibrils 79-10-7DP, 2-Propenoic acid, surface reaction product with carbon nanotubes and fibrils 107-02-8DP, Propenal, surface reaction product with carbon nanotubes and fibrils 107-11-9DP, 3-Amino-1-propene, surface reaction product with carbon nanotubes and fibrils 107-13-1DP, 2-Propenenitrile, surface reaction product with carbon nanotubes and fibrils 107-18-6DP,

2-Propen-1-ol, surface reaction product with carbon nanotubes and fibrils 108-31-6DP, 2,5-Furandione, surface reaction product with carbon nanotubes and fibrils 109-72-8DP, Butyllithium, surface reaction product with carbon nanotubes and fibrils 110-16-7DP, 2-Butenedioic acid (Z)-, surface reaction product with carbon nanotubes and fibrils 111-86-4DP, 1-Octanamine, surface reaction product with carbon nanotubes and fibrils 124-30-1DP, 1-Octadecanamine, surface reaction product with carbon nanotubes and fibrils 151-50-8DP, Potassium cyanide, surface reaction product with carbon nanotubes and fibrils 530-62-1DP, N,N'-Carbonyl diimidazole, surface reaction product with carbon nanotubes and fibrils 593-56-6DP, Methoxyamine hydrochloride, surface reaction product with carbon nanotubes and fibrils 814-68-6DP, Propenoyl chloride, surface reaction product with carbon nanotubes and fibrils 994-30-9DP, Chlorotriethylsilane, surface reaction product with carbon nanotubes and fibrils 1310-73-2DP, Sodium hydroxide, surface reaction product with carbon nanotubes and fibrils 1333-74-0DP, Hydrogen, surface reaction product with carbon nanotubes and fibrils 1336-21-6DP, Ammonium hydroxide, surface reaction product with carbon nanotubes and fibrils 1892-57-5DP, 1-Ethyl-3-(3-dimethylaminopropyl)carbodiimide, surface reaction product with carbon nanotubes and fibrils 2016-57-1DP, 1-Aminodecane, surface reaction product with carbon nanotubes and fibrils 2074-87-5DP, Cyanogen, surface reaction product with carbon nanotubes and fibrils 4048-33-3DP, 6-Aminohexan-1-ol, surface reaction product with carbon nanotubes and fibrils 4781-83-3DP, 2-Iminothiolane hydrochloride, surface reaction product with carbon nanotubes and fibrils 5591-94-6DP, surface reaction product with carbon nanotubes and fibrils 5957-17-5DP, Triethyl(2-hydroxyethyl)ammonium iodide, surface reaction product with carbon nanotubes and fibrils 7664-41-7DP, Ammonia, surface reaction product with carbon nanotubes and fibrils 7664-93-9DP, Sulfuric acid, surface reaction product with carbon nanotubes and fibrils 7697-37-2DP, Nitric acid, surface reaction product with carbon nanotubes and fibrils 7704-34-9DP, Sulfur, surface reaction product with carbon nanotubes and fibrils 7732-18-5DP, Water, surface reaction product with carbon nanotubes and fibrils 7782-44-7DP, Oxygen, surface reaction product with carbon nanotubes and fibrils 13214-66-9DP, 4-Phenylbutylamine, surface reaction product with carbon nanotubes and fibrils 19008-71-0DP, 8-Aminoctan-1-ol, surface reaction product with carbon nanotubes and fibrils 23160-46-5DP, 10-Aminodecan-1-ol, surface reaction product with carbon nanotubes and fibrils 103708-09-4DP, Sulfosuccinimidyl-4-(N-maleimidomethyl)cyclohexanecarboxylate, surface reaction product with carbon nanotubes and fibrils 142755-63-3DP, 18-Aminoctadecan-1-ol, surface reaction product with carbon nanotubes and fibrils

RL: SPN (Synthetic preparation); PREP (Preparation)  
(surface functionalization of carbon nanotubes and fibrils for enzyme immobilization)

IT 7631-86-9E, Silica, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of silica-carbon fibril composite)

RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)



IT 79-06-1DP, 2-Propenamide, surface reaction product with carbon nanotubes and fibrils

RL: SPN (Synthetic preparation); PREP (Preparation)  
(surface functionalization of carbon nanotubes and fibrils for enzyme

immobilization)  
 RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



L46 ANSWER 20 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2003:717247 CAPLUS Full-text  
 DOCUMENT NUMBER: 139:210376  
 TITLE: Analyte-detection using signal amplification via  
 polymerization and application to immunoassays and  
 nucleic acid hybridization  
 INVENTOR(S): Hanke, Hans-Christian; Martin, Alfred  
 PATENT ASSIGNEE(S): Infineon Technologies AG, Germany  
 SOURCE: Eur. Pat. Appl., 19 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO.  | DATE       |
|--|------|----------|------------------|------------|
| EP 1343012   | A1   | 20030910 | EP 2003-4841     | 20030305   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK |      |          |                  |            |
| DE 10210224  | A1   | 20030925 | DE 2002-10210224 | 20020308   |
| PRIORITY APPLN. INFO.:   |      |          | DE 2002-10210224 | A 20020308 |

AB The invention concerns an anal. system containing a detector mol. that binds specifically to the analyte mol. and a catalyst system that binds to the detector mol. directly or is capable to bind to the detector mol. via specific binding; the catalyst system is capable either to promote directly a polymerization or produces a polymerization initiator or a precursor thereof for the production of a polymerizate; the polymerizate is determined by optical, elec. or gravimetric means. Assays based on antibody-antigen binding and nucleic acid hybridization can be performed using the method; analytes or reagents are immobilized to solid phase, e.g. into the wells of microtiterplates. Typical catalyst mols. are oxidases; they can be linked via a spacer to the detector mol.; or the detector mol. is linked to an affinity mol., e.g. biotin and the catalyst is linked to avidin, thus the linkage between detector and catalyst is established via biotin-avidin binding. The anal. system also includes polymerizable compds. for solution, emulsion or suspension polymerization. The invention further relates to a test kit that contains the necessary ingredients.

IC ICM G01N033-58  
 ICS C12Q001-26; G01N033-543; G01N033-552

CC 9-1 (Biochemical Methods)

IT Affinity

Electrochemical analysis

Gravimetric analysis

Immobilization, molecular or cellular

Immunoassay

Microtiter plates

Nucleic acid hybridization

Optical detectors

## Semiconductor devices

## Test kits

(analyte-detection using signal amplification via polymerization and application to immunoassays and nucleic acid hybridization)

IT 79-06-1, Acrylamide, reactions

RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)

(analyte-detection using signal amplification via polymerization and application to immunoassays and nucleic acid hybridization)

IT 1303-00-0, Gallium arsenide, uses 7440-21-3, Silicon, uses 7440-56-4, Germanium, uses 7631-86-9, Silica, uses 12033-89-5, Silicon nitride, uses

RL: DEV (Device component use); USES (Uses)

(analyte-detection using signal amplification via polymerization and application to immunoassays and nucleic acid hybridization)

IT 79-06-1, Acrylamide, reactions

RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)

(analyte-detection using signal amplification via polymerization and application to immunoassays and nucleic acid hybridization)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



IT 7631-86-9, Silica, uses

RL: DEV (Device component use); USES (Uses)

(analyte-detection using signal amplification via polymerization and application to immunoassays and nucleic acid hybridization)

RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 21 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:222268 CAPLUS Full-text

DOCUMENT NUMBER: 138:251133

TITLE: Particle based homogeneous assays using capillary electrophoresis with laser-induced fluorescence detection

INVENTOR(S): Cheng, Anthony K.; Kim, Julie S.; Oh, Chan S.

PATENT ASSIGNEE(S): Beckman Coulter, Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 18 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND DATE

APPLICATION NO.

DATE

|  |    |          |                 |          |
|--|----|----------|-----------------|----------|
| US 2003054569  | A1 | 20030320 | US 2001-947990  | 20010906 |
| US 7179658   | B2 | 20070220 |                 |          |
| WO 2003023353  | A2 | 20030320 | WO 2002-US27332 | 20020827 |
| WO 2003023353  | A3 | 20031231 |                 |          |
| W: JP<br>RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT,<br>LU, MC, NL, PT, SE, SK, TR                   |    |          |                 |          |
| EP 1432987   | A2 | 20040630 | EP 2002-763547  | 20020827 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK |    |          |                 |          |
| JP 2005502871  | T  | 20050127 | JP 2003-527379  | 20020827 |
| US 2007259338  | A1 | 20071108 | US 2006-611072  | 20061214 |
| PRIOITY APPLN. INFO.: US 2001-947990 A 20010906<br>WO 2002-US27332 W 20020827  |    |          |                 |          |

AB The invention provides highly sensitive and rapid homogeneous assays which employ particle-enhanced assay formats in concert with capillary electrophoresis and laser-induced fluorescence (LIF) detection to determine the concentration of an analyte of interest in a sample. Such a determination is made by measuring fluorescent signal(s) (i.e., an electropherogram) produced upon LIF of species present in the reaction mixture that are capable of producing such signals. The method of this invention produces simplified electropherograms by reducing the number of signals that must be separated and subsequently measured, and therefore increases the accuracy of the detection and/or quantification of target analyte concentration in a sample.

IC ICM C12Q001-70

ICS C12Q001-68; G01N033-561

INCL 436516000; X43-5 .5; X43-5 .6

CC 9-16 (Biochemical Methods)

IT Animal cell

Animal tissue

Binders

Blood analysis

Blood plasma

Blood serum

Capillary electrophoresis

Cerebrospinal fluid

Coating materials

Columns and Towers

Concentration (condition)

Erythrocyte

Eubacteria

Fluorescent substances

Food analysis

Immobilization, molecular or cellular

Labels

Laser fluorometry

Liposomes

Milk analysis

Particles

Pesticides

Pharmaceutical analysis

Pollen

Tumor markers

Urine analysis

Virus

Wastes

(particle based homogeneous assays using capillary electrophoresis with  
laser-induced fluorescence detection)

IT 79-06-1, Acrylamide, analysis 7440-57-5, Colloidal gold,

analysis 7631-86-9, Silica, analysis 9004-34-6, Cellulose,  
 analysis 9004-54-0, Dextran, analysis 18358-13-9, Methacrylate,  
 analysis 60676-86-0, Fused silica  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (particle based homogeneous assays using capillary electrophoresis with  
 laser-induced fluorescence detection)

IT 79-06-1, Acrylamide, analysis 7631-86-9, Silica,  
 analysis  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (particle based homogeneous assays using capillary electrophoresis with  
 laser-induced fluorescence detection)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 22 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2003:73771 CAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 139:79654  
 TITLE: Oligodeoxynucleotide-modified capillary for electrophoretic separation of single-stranded DNAs with a single-base difference  
 AUTHOR(S): Anada, Takahisa; Ogawa, Masako; Yokomizo, Hisashi; Ozaki, Yoshihisa; Takarada, Tohru; Katayama, Yoshiaki; Maeda, Mizuo  
 CORPORATE SOURCE: Department of Applied Chemistry, Graduate School of Engineering, Kyushu University, Fukuoka, 812-8581, Japan  
 SOURCE: Analytical Sciences (2003), 19(1), 73-77  
 CODEN: ANSCEN; ISSN: 0910-6340  
 PUBLISHER: Japan Society for Analytical Chemistry  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB We describe here a method of affinity capillary electrophoresis in which oligodeoxynucleotide (ODN) was immobilized onto the inner surface of the capillary. The immobilized ODN functioned successfully as an affinity ligand for sequence-based DNA separation. Six- or 12-mer ODN with a sequence complementary to one of the c-K-ras gene was used as an immobilized ligand. When the 12-mer ODN was used, the detection peak for the complementary ODN disappeared selectively, while the single-base mutant was detected as usual. In contrast, when the 6-mer ODN was used as the affinity ligand with a mixture of the complementary ODN and its single-base mutant, it was possible to detect both as completely sep. peaks. That is, the separation mode was dependent on the base number of the immobilized ODN used as an affinity ligand.

CC 3-1 (Biochemical Genetics)

Section cross-reference(s): 9

IT Capillary electrophoresis

Immobilization, molecular or cellular  
 (oligodeoxynucleotide-modified capillary for electrophoretic separation of single-stranded DNAs with single-base difference)

IT 7631-86-9D, Silica, oligodeoxyribonucleotides-immobilized

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (oligodeoxynucleotide-modified capillary for electrophoretic separation of single-stranded DNAs with single-base difference)

IT 79-06-1, Acrylamide, uses 38862-25-8, Methacryloyloxy succinimide

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (use for oligodeoxyribonucleotide-immobilization; oligodeoxynucleotide-modified capillary for electrophoretic separation of single-stranded DNAs with single-base difference)

IT 7631-86-9D, Silica, oligodeoxyribonucleotides-immobilized

RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(oligodeoxynucleotide-modified capillary for electrophoretic separation of single-stranded DNAs with single-base difference)

RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)



IT 79-06-1, Acrylamide, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (use for oligodeoxyribonucleotide-immobilization; oligodeoxynucleotide-modified capillary for electrophoretic separation of single-stranded DNAs with single-base difference)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 23 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:906328 CAPLUS Full-text

DOCUMENT NUMBER: 138:5635

TITLE: Azlactone-functional reactive hydrophilic coatings and hydrogels and articles comprising coated substrates useful for immobilization of biological materials

INVENTOR(S): Haddad, Louis C.; Hembre, James I.; Rasmussen, Jerald K.; Sarpong, Daniel

PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA

SOURCE: PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND DATE

APPLICATION NO.

DATE

|  |  |          |                 |            |
|--|--|----------|-----------------|------------|
| WO 2002094890  | A1   | 20021128 | WO 2002-US5433  | 20020222   |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW  | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG |          |                 |            |
| US 2003049435  | A1   | 20030313 | US 2001-860944  | 20010518   |
| US 6794458   | B2   | 20040921 |                 |            |
| CA 2445758   | A1   | 20021128 | CA 2002-2445758 | 20020222   |
| AU 2002254016  | A1   | 20021203 | AU 2002-254016  | 20020222   |
| EP 1387857   | A1   | 20040211 | EP 2002-723223  | 20020222   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  |  |          |                 |            |
| JP 2004535488  | T  | 20041125 | JP 2002-592364  | 20020222   |
| US 2005003198  | A1   | 20050106 | US 2004-896664  | 20040722   |
| US 7101621   | B2   | 20060905 |                 |            |
| PRIORITY APPLN. INFO.:   |  |          | US 2001-860944  | A 20010518 |
|  |  |          | WO 2002-US5433  | W 20020222 |
| AB Surface coatings from azlactone-functional hydrogels and articles comprising a substrate which is a film, a plate, a particle, a fiber, a column, a bead, a web or a membrane with the coatings disposed thereon are disclosed. Methods of making the coating and controlling the gelation time of the hydrogels by providing a suitable crosslinking agent, e.g. a compound containing primary and secondary amino groups are also disclosed. The coatings have residual azlactone functionality which can be used for covalent attachment (immobilization) of biol. or other functional materials. Thus, a 40% solids Me Et ketone solution of 80:20 weight/weight dimethylacrylamide-vinyldimethylazlactone copolymer prepared by standard free radical polymerization was diluted to 20% solids with isopropanol, formulated with enough ethylenediamine to provide a crosslink d. of ≈ 10% by weight, then applied to a com. 1536-well plate. Upon drying, a reactive, azlactone-functional polymeric coating was obtained within the wells. |  |          |                 |            |
| IC ICM C08F008-32  |  |          |                 |            |
| ICS C08F220-56; C08F226-06; C09D133-26; C08J007-12; C08J003-24; C12N011-08; C08K005-17; C08K005-5455; C08L033-26   |  |          |                 |            |
| CC 42-3 (Coatings, Inks, and Related Products)   |  |          |                 |            |
| Section cross-reference(s): 9, 37  |  |          |                 |            |
| IT Hydrogels   |  |          |                 |            |
| Immobilization, molecular or cellular  |  |          |                 |            |
| Microtiter plates  |  |          |                 |            |
| (azlactone-functional reactive hydrophilic coatings and hydrogels and articles comprising coated substrates useful for immobilization of biol. materials)  |  |          |                 |            |
| IT 79-06-1BP, Acrylamide, derivs., polymers with azlactone-derived monomers 79-10-7DP, Acrylic acid, hydroxymethyl esters, polymers with azlactone-derived monomers 79-39-0DP, Methacrylamide, derivs., polymers with azlactone-derived monomers 79-41-4DP, Methacrylic acid, polymers with azlactone-derived monomers 97-65-4DP, Itaconic acid, polymers with azlactone-derived monomers 100-43-6DP, 4-Vinylpyridine, polymers with azlactone-derived monomers 100-69-6DP, 2-Vinylpyridine, polymers with azlactone-derived monomers 105-16-8DP, 2-Diethylaminoethyl methacrylate, polymers with azlactone-derived monomers 110-16-7DP, Maleic acid, polymers with azlactone-derived monomers 110-17-8DP, Fumaric acid, polymers with azlactone-derived monomers 1121-55-7DP, 3-Vinylpyridine, polymers with azlactone-derived monomers 1746-03-8DP, Vinylphosphonic  |  |          |                 |            |

acid, polymers with azlactone-derived monomers 2426-54-2DP,  
 2-Diethylaminoethyl acrylate, polymers with azlactone-derived monomers  
 15214-89-8DP, 2-Acrylamido-2-methyl-1-propanesulfonic acid, polymers with  
 azlactone-derived monomers 18526-07-3DP, 3-Dimethylaminopropyl acrylate,  
 polymers with azlactone-derived monomers 20602-77-1DP,  
 3-Dimethylaminopropyl methacrylate, polymers with azlactone-derived  
 monomers 26914-43-2DP, Styrenesulfonic acid, polymers with  
 azlactone-derived monomers 36885-49-1DP, polymers with azlactone-derived  
 monomers 45021-77-0DP, (3-Acrylamidopropyl)trimethylammonium chloride,  
 polymers with azlactone-derived monomers 87328-05-0DP, reaction products  
 with crosslinked dimethylacrylamide-vinylidemethylazlactone copolymer  
 477273-94-2P 477273-95-3P 477273-96-4P 477273-97-5P 477273-98-6P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (azlactone-functional reactive hydrophilic coatings and hydrogels and  
 articles comprising coated substrates useful for immobilization of  
 biol. materials)

IT 7631-86-9, Silica, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (beads, substrate; azlactone-functional reactive hydrophilic coatings  
 and hydrogels and articles comprising coated substrates useful for  
 immobilization of biol. materials)

IT 79-06-1DP, Acrylamide, derivs., polymers with azlactone-derived  
 monomers

RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (azlactone-functional reactive hydrophilic coatings and hydrogels and  
 articles comprising coated substrates useful for immobilization of  
 biol. materials)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



IT 7631-86-9, Silica, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
 (beads, substrate; azlactone-functional reactive hydrophilic coatings  
 and hydrogels and articles comprising coated substrates useful for  
 immobilization of biol. materials)

RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 24 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:869335 CAPLUS Full-text

DOCUMENT NUMBER: 137:362097

TITLE: Chromatography apparatus and methods

INVENTOR(S): Allen, Stephen E.; Dawson, Bruce M.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 5 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE     |
|------------------------|------|----------|-----------------|----------|
| US 2002166816          | A1   | 20021114 | US 2001-855155  | 20010514 |
| PRIORITY APPLN. INFO.: |      |          | US 2001-855155  | 20010514 |

AB A disposable chromatog. cartridge for separating a chemical contained in a solution, the cartridge including a vessel having an inlet and outlet and a flexible wall that is deformable by externally applied force to reduce a volume within said vessel, and a monolith chromatog. stationary phase inside said vessel. The application of external force and deformation of the flexible wall provides for improved separation of the chemical compound passing through the monolith chromatog. stationary phase. Because the cartridge wall is flexible, it has less expense than a standard column, which results in cost savings when the cartridges are disposed after use, as they typically are when the monolith material is formed in place. Alternatively, when the monolith is preformed, the voids that tend to result next to the chamber wall will be closed during compression, while the voids would not be closed with a standard column. A chromatog. apparatus using such a cartridge and its use in separating a chemical in a solution are disclosed.

IC ICM B01D015-08

INCL 210656000

CC 79-4 (Inorganic Analytical Chemistry)

ST liq chromatog disposable stationary phase cartridge

IT Liquid chromatography  
 (cartridge, disposable; disclosed chromatog. cartridge having monolithic stationary phase)

IT Acrylic polymers, uses  
 RL: DEV (Device component use); USES (Uses)  
 (monolithic chromatog. stationary phase; disclosed chromatog. cartridge having monolithic stationary phase)

IT Chromatographic stationary phases  
 (monolithic; disclosed chromatog. cartridge having monolithic stationary phase)

IT 79-06-1b, Acrylamide, derivs. 7631-86-9, Silica, uses  
 9003-70-7, Polystyrene divinylbenzene 9004-34-6, Cellulose, uses  
 9012-36-6, Agarose

RL: DEV (Device component use); USES (Uses)  
 (monolithic chromatog. stationary phase; disclosed chromatog. cartridge having monolithic stationary phase)

IT 79-06-1d, Acrylamide, derivs. 7631-86-9, Silica, uses  
 RL: DEV (Device component use); USES (Uses)  
 (monolithic chromatog. stationary phase; disclosed chromatog. cartridge having monolithic stationary phase)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



L46 ANSWER 25 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2002:531115 CAPLUS Full-text  
 DOCUMENT NUMBER: 137:90193  
 TITLE: Enzyme immobilization on inorganic porous material via crosslinking  
 INVENTOR(S): Akashi, Mitsuru; Suzuki, Kazuya  
 PATENT ASSIGNEE(S): Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| JP 2002199878   | A    | 20020716 | JP 2000-404912  | 20001228 |
| PRIORITY APFLN. INFO.:  |      |          | JP 2000-404912  | 20001228 |
| AB A method for immobilization of enzymes on organic-inorg. hybrid body by crosslinking an enzyme-containing organic compound inside the pores of inorg. porous material, is disclosed. Immobilization of enzymes on spherical porous silica particles, calcium silicate, calcium carbonate, or calcium phosphate using acrylamide and a crosslinking agent N,N'-methylene bisacrylamide is described. Use of the complex of low temperature melting agarose and silica in liquid chromatog. column is described. Good performance under increasing pressure was observed |      |          |                 |          |
| IC ICM C12N011-08   |      |          |                 |          |
| ICS C12N011-14  |      |          |                 |          |
| CC 7-7 (Enzymes)  |      |          |                 |          |
| Section cross-reference(s): 9   |      |          |                 |          |
| IT Immobilization, molecular or cellular<br>(enzyme; enzyme immobilization on inorg. porous material via crosslinking)  |      |          |                 |          |
| IT Liquid chromatographic stationary phases<br>(use of low temperature melting agarose and silica complex for; enzyme immobilization on inorg. porous material via crosslinking)  |      |          |                 |          |
| IT 471-34-1, Calcium carbonate, uses 1344-95-2, Calcium silicate<br>7631-86-9, Silica, uses 10103-46-5, Calcium phosphate   |      |          |                 |          |
| RL: DEV (Device component use); USES (Uses)<br>(spherical porous particles, enzyme immobilization on; enzyme immobilization on inorg. porous material via crosslinking)   |      |          |                 |          |
| IT 79-06-1, Acrylamide, reactions<br>RL: RCT (Reactant); RACT (Reactant or reagent)<br>(use for crosslinking; enzyme immobilization on inorg. porous material via crosslinking)   |      |          |                 |          |
| IT 7631-86-9, Silica, uses<br>RL: DEV (Device component use); USES (Uses)<br>(spherical porous particles, enzyme immobilization on; enzyme immobilization on inorg. porous material via crosslinking)   |      |          |                 |          |
| RN 7631-86-9 CAPLUS   |      |          |                 |          |

CN Silica (CA INDEX NAME)

O == Si == O

IT 79-06-1, Acrylamide, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (use for crosslinking; enzyme immobilization on inorg. porous material  
 via crosslinking)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



L46 ANSWER 26 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:391466 CAPLUS Full-text

DOCUMENT NUMBER: 136:366111

TITLE: Platelet/leukocyte interaction assay and reagent  
 therefor

INVENTOR(S): Mahan, Donald E.; Stewart, Michael W.

PATENT ASSIGNEE(S): Pharmaceutics Incorporated, USA

SOURCE: PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE       |
|--|------|----------|-----------------|------------|
| WO 2002039949  | A2   | 20020523 | WO 2001-US42946 | 20011115   |
| WO 2002039949  | A3   | 20020718 |                 |            |
| WO 2002039949  | A9   | 20030206 |                 |            |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,<br>CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,<br>GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,<br>LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,<br>PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA,<br>UG, UZ, VN, YU, ZA, ZM, ZW |      |          |                 |            |
| RW: GH, GM, KB, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,<br>CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,<br>BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG   |      |          |                 |            |
| US 6586259   | B1   | 20030701 | US 2000-712165  | 20001115   |
| CA 2428109   | A1   | 20020523 | CA 2001-2428109 | 20011115   |
| AU 2002033923  | A    | 20020527 | AU 2002-33923   | 20011115   |
| EP 1334363   | A2   | 20030813 | EP 2001-984919  | 20011115   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |      |          |                 |            |
| BR 2001015396  | A    | 20040203 | BR 2001-15396   | 20011115   |
| JP 2004537029  | T    | 20041209 | JP 2002-542324  | 20011115   |
| MX 2003PA04287   | A    | 20030819 | MX 2003-PA4287  | 20030515   |
| PRIORITY APPLN. INFO.:   |      |          | US 2000-712165  | A 20001115 |
|  |      |          | US 1999-165462P | P 19991115 |

AB A platelet/leukocyte interaction assay method and reagent therefor are provided using the presence of a solid-phase stimulus, such as magnetic or non-magnetic particles or mixts. thereof, having bound to the surface thereof one or more ligands that interact directly with platelets, leukocytes or both, for providing a fast, reliable point-of-care assessment of platelet/leukocyte interaction. Citrated whole blood samples of patients undergoing coronary artery bypass graft surgery were tested before and throughout the surgical procedure using von Willebrand factor-coated microspheres and differential cell counts. Platelet/leukocyte complex formation in the presence of the VWF-coated microspheres was noted in the blood samples collected while the patients were on bypass, however platelet/leukocyte complex formation in the presence of the VWF coated microspheres was not seen in blood samples collected 24 h post-surgery, in any of the study subjects.

IC ICM A61K

CC 9-2 (Biochemical Methods)

Section cross-reference(s): 14

IT 79-06-1D, Acrylamide, particles with immobilized ligands interacting with platelets and/or leukocytes 107-13-1D, Acrylonitrile, particles with immobilized ligands interacting with platelets and/or leukocytes 1332-37-2D, Iron oxide, particles with immobilized ligands interacting with platelets and/or leukocytes 7440-05-3D, Palladium, particles with immobilized ligands interacting with platelets and/or leukocytes 7440-06-4D, Platinum, particles with immobilized ligands interacting with platelets and/or leukocytes 7440-57-5D, Gold, particles with immobilized ligands interacting with platelets and/or leukocytes 7631-86-9D, Silica, particles with immobilized ligands interacting with platelets and/or leukocytes 9001-24-5D, Blood-coagulation factor V, immobilized on particles 9001-26-7D, Blood-coagulation factor II, immobilized on particles 9001-27-8D, Blood-coagulation factor VIII, immobilized on particles 9001-28-9D, Blood-coagulation factor IX, immobilized on particles 9001-29-0D, Blood-coagulation factor X, immobilized on particles 9001-30-3D, Blood-coagulation factor XII, immobilized on particles 9002-04-4D, Blood-coagulation factor IIa, immobilized on particles 9002-05-5D, Blood-coagulation factor Xa, immobilized on particles 9002-84-0D, Teflon, particles with immobilized ligands interacting with platelets and/or leukocytes 9003-53-6D, Polystyrene, particles with immobilized ligands interacting with platelets and/or leukocytes 9004-54-0D, Dextran, particles with immobilized ligands interacting with platelets and/or leukocytes 9005-49-6D, Heparin sulfate, immobilized on particles 9007-28-7D, Chondroitin sulfate, immobilized on particles 9012-36-6D, Agarose, particles with immobilized ligands interacting with platelets and/or leukocytes 9013-55-2D, Blood-coagulation factor XI, immobilized on particles 9013-56-3D, Blood-coagulation factor XIII, immobilized on particles 9067-75-8D, Blood-coagulation factor XIIIa, immobilized on particles 37203-61-5D, Blood-coagulation factor XIa, immobilized on particles 37203-62-6D, Blood-coagulation factor XIIa, immobilized on particles 37316-87-3D, Blood-coagulation factor IXa, immobilized on particles 65522-14-7D, Blood-coagulation factor Va, immobilized on particles 72175-66-7D, Blood-coagulation factor VIIIa, immobilized on particles RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses) (platelet/leukocyte interaction assay and reagent)

IT 79-06-1D, Acrylamide, particles with immobilized ligands interacting with platelets and/or leukocytes 7631-86-9D, Silica, particles with immobilized ligands interacting with platelets and/or leukocytes RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(platelet/leukocyte interaction assay and reagent)  
 RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



L46 ANSWER 27 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2001:781254 CAPLUS Full-text  
 DOCUMENT NUMBER: 135:315562  
 TITLE: Protein expression system arrays and use in biological screening  
 INVENTOR(S): Patron, Andrew; Sawafta, Reyad; Zhou, Bin  
 PATENT ASSIGNEE(S): Trans Tech Pharma, USA  
 SOURCE: PCT Int. Appl., 41 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE       |
|--|------|----------|-----------------|------------|
| WO 2001079849  | A2   | 20011025 | WO 2001-US12474 | 20010417   |
| WO 2001079849  | A3   | 20030814 |                 |            |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,<br>CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,<br>HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,<br>LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,<br>SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,<br>YU, ZA, ZW |      |          |                 |            |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG,<br>KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR,<br>IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN,<br>GW, ML, MR, NE, SN, TD, TG  |      |          |                 |            |
| US 2001041349  | A1   | 20011115 | US 2001-836746  | 20010417   |
| EP 1354037   | A2   | 20031022 | EP 2001-928594  | 20010417   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |      |          |                 |            |
| PRIORITY APPLN. INFO.:   |      |          | US 2000-197692P | P 20000417 |
|  |      |          | WO 2001-US12474 | W 20010417 |

AB The present invention relates to the generation of an array of protein expression systems for parallel in vitro screening of small mol. libraries, protein or peptide libraries, or other protein-binding components. In an aspect, the invention provides a spatially defined array of protein expression systems comprising: (a) a substrate; (b) a binding surface which covers some or all of the substrate surface; and (c) a plurality of discrete protein expression systems arranged in discrete positions on portions of said

substrate covered by said binding surface. Also described are method of using the array for the rapid identification of compds. of able to interact with proteins expressed by any given array.

IC ICM G01N033-543  
 CC 9-1 (Biochemical Methods)  
 Section cross-reference(s): 2, 3, 7  
 IT Apoptosis  
 Biosensors  
 Combinatorial library  
 Computer application  
 Computer program  
 DNA formation  
 DNA microarray technology  
 DNA repair  
 Drug screening  
 Epitopes  
 Films  
 Functional groups  
 Genetic methods  
 Hepatitis C virus  
 Hydrogels  
 Ion mobility  
 Membrane, biological  
 PCR (polymerase chain reaction)  
 Pathogenic bacteria  
 Peptide library  
     Solid phase synthesis  
 Time-of-flight mass spectrometry  
     (protein expression system arrays and use in biol. screening)  
 IT Immobilization, biochemical  
     (protein; protein expression system arrays and use in biol. screening)  
 IT 79-06-1, Acrylamide, uses 1344-28-1, Alumina, uses 7440-21-3,  
 Silicon, uses 7631-86-9, Silicon dioxide, uses 9002-88-4,  
 Polyethylene 9003-07-0, Polypropylene 9003-53-6, Polystyrene  
 13463-67-7, Titania, uses  
 RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
 (Analytical study); USES (Uses)  
     (protein expression system arrays and use in biol. screening)  
 IT 79-06-1, Acrylamide, uses 7631-86-9, Silicon dioxide,  
 uses  
 RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
 (Analytical study); USES (Uses)  
     (protein expression system arrays and use in biol. screening)  
 RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



L46 ANSWER 28 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2001:677069 CAPLUS Full-text  
 DOCUMENT NUMBER: 135:238969  
 TITLE: Preparation and use of carriers coated with polysaccharides  
 INVENTOR(S): Kirakossian, Hrair; Pease, John S.; Schelp, Carsten;  
 Pirio, Marcel R.; Stoehr, Uwe; Wiegand, Andreas  
 PATENT ASSIGNEE(S): Dade Behring Inc., USA  
 SOURCE: PCT Int. Appl., '71 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE       |
|--|------|----------|-----------------|------------|
| WO 2001067105  | A1   | 20010913 | WO 2000-US5978  | 20000306   |
| W: CA, JP, US  |      |          |                 |            |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,<br>PT, SE    |      |          |                 |            |
| CA 2400993   | A1   | 20010913 | CA 2000-2400993 | 20000306   |
| EP 1264181   | A1   | 20021211 | EP 2000-919371  | 20000306   |
| EP 1264181   | B1   | 20070606 |                 |            |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, FI, CY |      |          |                 |            |
| JP 2003526786  | T    | 20030909 | JP 2001-566027  | 20000306   |
| ES 2287006   | T3   | 20071216 | ES 2000-919371  | 20000306   |
| US 7179660   | B1   | 20070220 | US 2003-220623  | 20030414   |
| PRIORITY APPLN. INFO.:   |      |          | EP 2000-919371  | A 20000306 |
|  |      |          | WO 2000-US5978  | W 20000306 |

AB A polysaccharide coated carrier having a coating of at least two successive layers of polysaccharide is described. The first polysaccharide layer spontaneously assoc. with a second polysaccharide layer and, optionally, the carrier. Each successive layer of polysaccharide spontaneously assoc. with a preceding layer. Spontaneous association occurs due to the presence of oppositely charged functional groups on each layer of polysaccharide or due to a spontaneous reaction between the functional groups on the layers. The carrier may be any surface such as a tube, microtitration plate, bead, particle or the like and is suitable for use in diagnostic or therapeutic methods. For example, chemiluminescent carboxylate beads (Seradyn) were coated with aminodextran and dextran aldehyde and labeled with anti-digoxin or anti-TSH antibodies. These anti-digoxin and anti-TSH antibody labeled chemiluminescent beads were tested for their performances in LOCI assays. The higher antibody concentration during the labeling resulted in chemibead-antibody reagent with better performance in the TSH LOCI assay.

IC ICM G01N033-548  
 ICS G01N033-543

CC 9-16 (Biochemical Methods)

Section cross-reference(s): 1, 2, 15, 64

IT 1344-28-1, Alumina, analysis 7487-88-9, Magnesium sulfate, analysis 7631-86-2, Silica, analysis 9002-86-2, Polyvinyl chloride 9002-88-4, Polyethylene 9003-01-4, Poly(acrylic acid) 9003-05-8, Polyacrylamide 9003-07-0, Polypropylene 9003-29-6D, Poly(butene), derivs. 9003-53-6, Polystyrene 9004-34-6, Cellulose, analysis 9004-35-7, Cellulose acetate 9004-70-0, Nitrocellulose 9012-36-6, Agarose 24991-31-9, Polyvinylbutyrate 25038-59-9, Polyethyleneterephthalate, analysis 25087-26-7, Poly(methacrylic acid) 141733-17-7, Seradyn

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (preparation of carriers coated with polysaccharides for diagnostics or pharmaceutical anal.)  
 IT 58-85-5D, Biotin, derivs. 79-06-1, Acrylamide, reactions  
 106-40-1, 4-Bromoaniline 106-89-8, reactions 106-92-3, Allyl glycidyl ether 112-71-0, 1-Bromotetradecane 3634-67-1 5455-98-1, N-(2,3-Epoxypropyl)phthalimide 7087-68-5, N,N-Diisopropylethylamine 10026-04-7, Silicon tetrachloride 32703-80-3, 4-tert-Butyl-1,2-dicyanobenzene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of carriers coated with polysaccharides for diagnostics or pharmaceutical anal.)  
 IT 7631-86-9, Silica, analysis  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (preparation of carriers coated with polysaccharides for diagnostics or pharmaceutical anal.)  
 RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



IT 79-06-1, Acrylamide, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of carriers coated with polysaccharides for diagnostics or pharmaceutical anal.)  
 RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 29 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 2001:168188 CAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 134:204760  
 TITLE: Methods of immobilizing ligands on solid supports and apparatus and methods of use therefor  
 INVENTOR(S): Abrams, Ezra S.; Zhang, Tianhong; Mielewczik, Slawomir; Patterson, Brian C.  
 PATENT ASSIGNEE(S): Mosaic Technologies Inc., USA  
 SOURCE: PCT Int. Appl., 98 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------|------|----------|-----------------|----------|
| WO 2001016372 | A1   | 20010308 | WO 2000-US23627 | 20000828 |
| WO 2001016372 | A9   | 20020912 |                 |          |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
 CA 2382121 A1 20010308 CA 2000-2382121 20000828  
 EP 1208238 A1 20020529 EP 2000-957879 20000828  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL  
 US 6492118 B1 20021210 US 2000-649637 20000828  
 JP 2003508763 T 20030304 JP 2001-520917 20000828  
 AU 780882 B2 20050421 AU 2000-69437 20000828  
 US 2003143569 A1 20030731 US 2002-210307 20020801  
 US 2003143570 A1 20030731 US 2002-210400 20020801  
 PRIORITY APPLN. INFO.: US 1999-151267P P 19990827  
                           US 2000-177844P P 20000125  
                           US 2000-649637 A3 20000828  
                           WO 2000-US23627 W 20000828

- AB A method is provided for immobilizing a ligand, e.g., a nucleic acid, on a solid support. The method includes providing a solid support containing an immobilized latent thiol group, activating the thiol group, contacting the activated thiol group with a nucleic acid comprising an acrylamide functional group, and forming a covalent bond between the two groups, thereby immobilizing the nucleic acid to the solid support. Kits containing the solid supports and method of utilizing the solid supports are also provided. Amino-functional polystyrene microspheres were reacted with N-succinimidyl S-acetylthiopropionate to make latent thiol microspheres. The latent thiol microspheres were activated with hydroxylamine HCl before reaction with acrylamide-modified oligonucleotide primer.
- IC ICM C12Q001-68  
 ICS C12N015-10; G01N033-53
- CC 9-16 (Biochemical Methods)  
 Section cross-reference(s): 3, 35
- IT Functional groups  
 (acrylamide, on nucleic acid; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
- IT Primers (nucleic acid)  
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)  
 (acrylamide-modified, reaction products with activated thiolated microspheres; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
- IT Nucleic acids  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (analogs, immobilization of; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
- IT Glass, uses  
 Metals, uses  
 Plastics, uses  
 RL: DEV (Device component use); USES (Uses)  
 (as solid support; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
- IT Nucleic acids  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (conjugates, with acrylamide, immobilization of; methods of immobilizing

- IT ligands on solid supports and apparatus and methods of use therefor)
  - IT Samples
    - (contaminant detection in; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
  - IT cDNA
    - RL: ANT (Analyte); ANST (Analytical study)
      - (for rabbit  $\beta$ -globin; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
  - IT Silanes
    - RL: RCT (Reactant); RACT (Reactant or reagent)
      - (halosilanes; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
  - IT Nucleic acids
    - RL: ANT (Analyte); PUR (Purification or recovery); RCT (Reactant); ANST (Analytical study); PREP (Preparation); RACT (Reactant or reagent)
      - (immobilization of; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
  - IT Ligands
    - RL: RCT (Reactant); RACT (Reactant or reagent)
      - (immobilization of; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
  - IT Polymers, uses
    - RL: DEV (Device component use); USES (Uses)
      - (layer of; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
  - IT Affinity
    - (ligands; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
  - IT Genome
    - (mapping; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
  - IT Analytical apparatus
    - Biosensors
    - DNA microarray technology
    - DNA sequence analysis
    - Diagnosis
    - Genetic mapping
      - Immobilization, biochemical
    - Nucleic acid amplification (method)
    - Nucleic acid hybridization
    - Polymerization
    - Reducing agents
      - (methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
  - IT Hydroxamic acids
    - Isocyanides
    - Nitriles, reactions
      - RL: RCT (Reactant); RACT (Reactant or reagent)
        - (methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
  - IT Gene
    - RL: ANT (Analyte); ANST (Analytical study)
      - (monitoring expression of; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
  - IT Microspheres
    - (of polystyrene derivatized with acrylamide-functional nucleic acid; methods of immobilizing ligands on solid supports and apparatus and methods of use therefor)
  - IT Hydroxyl group

- Sulfhydryl group  
 (on solid support; methods of immobilizing ligands  
 on solid supports and apparatus and methods of use  
 therefor)
- IT Amines, reactions  
 Disulfides  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (on solid support; methods of immobilizing ligands  
 on solid supports and apparatus and methods of use  
 therefor)
- IT Genetic mapping  
 (phys.; methods of immobilizing ligands on solid  
 supports and apparatus and methods of use therefor)
- IT Carbonyl compounds (organic), reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 ( $\alpha,\beta$ -unsatd., on affinity ligands; methods of immobilizing  
 ligands on solid supports and apparatus and methods of  
 use therefor)
- IT 1344-28-1, Alumina, uses 7439-89-6, Iron, uses 7439-92-1, Lead, uses  
 7439-96-5, Manganese, uses 7439-97-6, Mercury, uses 7440-05-3,  
 Palladium, uses 7440-22-4, Silver, uses 7440-33-7, Tungsten, uses  
 7440-43-9, Cadmium, uses 7440-47-3, Chromium, uses 7440-50-8, Copper,  
 uses 7440-57-5, Gold, uses 7440-66-6, Zinc, uses 9003-53-6,  
 Polystyrene 14808-60-7, Quartz, uses  
 RL: DEV (Device component use); USES (Uses)  
 (as solid support; methods of immobilizing ligands  
 on solid supports and apparatus and methods of use  
 therefor)
- IT 868-77-9, 2-Hydroxyethylmethacrylate 2680-03-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (blocking with; methods of immobilizing ligands on solid  
 supports and apparatus and methods of use therefor)
- IT 7631-86-9, Silica, uses  
 RL: DEV (Device component use); USES (Uses)  
 (doped or undoped, as solid support; methods of  
 immobilizing ligands on solid supports and apparatus and  
 methods of use therefor)
- IT 79267-33-7DP, acrylate slide-bound  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (gel; methods of immobilizing ligands on solid  
 supports and apparatus and methods of use therefor)
- IT 4369-14-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (glass microscopes slide coated with; methods of immobilizing ligands  
 on solid supports and apparatus and methods of use  
 therefor)
- IT 79-39-0D, Methacrylamide, conjugates with nucleic acids  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (immobilization of; methods of immobilizing ligands on solid  
 supports and apparatus and methods of use therefor)
- IT 79-06-1DP, Acrylamide, polymers with sulfide acrylamide  
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (methods of immobilizing ligands on solid supports  
 and apparatus and methods of use therefor)
- IT 60-24-2,  $\beta$ -Mercaptoethanol 79-06-1D, Acrylamide, conjugates  
 with nucleic acids 507-09-5, Thioacetic acid, reactions 5470-11-1,  
 Hydroxylamine hydrochloride 51805-45-9, Tris(2-carboxyethyl)phosphine  
 hydrochloride 60984-57-8 84271-78-3 328980-38-7D, reaction with

methacrylamide  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (methods of immobilizing ligands on solid supports  
 and apparatus and methods of use therefor)

IT 60984-57-8DP, acrylate slide-bound 329009-45-2P 329009-46-3DP,  
 acrylate slide-bound  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (methods of immobilizing ligands on solid supports  
 and apparatus and methods of use therefor)

IT 99964-73-5DP, polymers with acrylamide and thioacrylamides, acrylic  
 silane-coated microscope slide-bound 329009-47-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (methods of immobilizing ligands on solid supports  
 and apparatus and methods of use therefor)

IT 144-48-9, Iodoacetamide  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, for capping excess thiol groups on microspheres; methods  
 of immobilizing ligands on solid supports and apparatus  
 and methods of use therefor)

IT 7631-86-9, Silica, uses  
 RL: DEV (Device component use); USES (Uses)  
 (doped or undoped, as solid support; methods of  
 immobilizing ligands on solid supports and apparatus and  
 methods of use therefor)

RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



IT 79-06-1DP, Acrylamide, polymers with sulfide acrylamine  
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (methods of immobilizing ligands on solid supports  
 and apparatus and methods of use therefor)

RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



IT 79-06-1B, Acrylamide, conjugates with nucleic acids  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (methods of immobilizing ligands on solid supports  
 and apparatus and methods of use therefor)

RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 30 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1999:819529 CAPLUS Full-text  
 DOCUMENT NUMBER: 132:60102  
 TITLE: Nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials  
 INVENTOR(S): Charych, Deborah H.; Jonas, Ulrich  
 PATENT ASSIGNEE(S): Regents of the University of California, USA  
 SOURCE: PCT Int. Appl., 176 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 11  
 PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE       |
|--|------|----------|-----------------|------------|
| WO 9967423   | A1   | 19991229 | WO 1999-US14029 | 19990622   |
| W: AU, CA, JP  |      |          |                 |            |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE |      |          |                 |            |
| CA 2330937   | A1   | 19991229 | CA 1999-2330937 | 19990622   |
| AU 9947047   | A    | 20000110 | AU 1999-47047   | 19990622   |
| AU 748644  | B2   | 20020606 |                 |            |
| EP 1112377   | A1   | 20010704 | EP 1999-930522  | 19990622   |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI  |      |          |                 |            |
| JP 2004500006  | T    | 20040108 | JP 2000-556063  | 19990622   |
| PRIORITY APPLN. INFO.:   |      |          | US 1998-90266P  | P 19980622 |
|  |      |          | US 1999-337973  | A 19990621 |
|  |      |          | WO 1999-US14029 | W 19990622 |

- AB The present invention relates to methods and compns. for the direct detection of analytes and membrane conformational changes through the detection of color changes in biopolymeric materials. In particular, the present invention provides for the direct colorimetric detection of analytes using nucleic acid ligands at surfaces or polydiacetylene liposomes and related mol. layer systems. Synthetic schemes are provided for the preparation and immobilization of polydiacetylenic materials with various head groups.
- IC C12Q001-68; G01N033-53; C12N011-00; C12M001-00; C07H021-04
- CC 3-1 (Biochemical Genetics)
- Section cross-reference(s): 9
- IT Fluoropolymers, uses
- Glass, uses
- Mica-group minerals, uses
- RL: DEV (Device component use); USES (Uses)  
 (solid support; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT 62-53-3D, Aniline, compds. 79-06-1D, Acrylamide, compds.
- 79-41-4D, Methacrylic acid, compds. 109-97-7D, Pyrrole, compds.
- 110-02-1D, Thiophene, compds. 1121-34-2D, Malic anhydride, compds.
- 19295-34-2D, Vinylpyridinium, compds.
- RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (self-assembling monomers; nucleic acid-coupled colorimetric analyte detectors using self-assembling polydiacetylenic materials)
- IT 7440-21-3, Silicon, uses 7440-57-5, Gold, uses 7631-86-9,
- Silica, uses 9002-84-0, Teflon 9002-88-4, Polyethylene 9003-53-6, Polystyrene 9012-36-6, Sepharose 9014-76-0, Sephadex 25014-41-9D,

Polyacrylonitrile, compds.

RL: DEV (Device component use); USES (Uses)  
 (solid support; nucleic acid-coupled colorimetric  
 analyte detectors using self-assembling polydiacetylenic materials)

IT 79-06-1D, Acrylamide, compds.

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (self-assembling monomers; nucleic acid-coupled colorimetric analyte  
 detectors using self-assembling polydiacetylenic materials)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



IT 7631-86-9, Silica, uses

RL: DEV (Device component use); USES (Uses)  
 (solid support; nucleic acid-coupled colorimetric  
 analyte detectors using self-assembling polydiacetylenic materials)

RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 31 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1998:568970 CAPLUS Full-text  
 DOCUMENT NUMBER: 129:200179  
 TITLE: Methods and compns. for detection of analytes using  
 color changes that occur in biopolymeric material in  
 response to selective binding of analytes  
 INVENTOR(S): Stevens, Raymond; Quan, Cheng  
 PATENT ASSIGNEE(S): The Regents of the University of California, USA  
 SOURCE: PCT Int. Appl., 121 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 11  
 PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE       |
|--|------|----------|-----------------|------------|
| WO 9836263   | A1   | 19980820 | WO 1998-US2777  | 19980213   |
| W: AU, CA, JP  |      |          |                 |            |
| RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE |      |          |                 |            |
| AU 9861627   | A    | 19980908 | AU 1998-61627   | 19980213   |
| EP 1007943   | A1   | 20000614 | EP 1998-906389  | 19980213   |
| R: CH, DE, FR, GB, LI  |      |          |                 |            |
| PRIORITY APPLN. INFO.:   |      |          | US 1997-38383P  | P 19970214 |
|  |      |          | WO 1998-US2777  | W 19980213 |

AB The present invention relates to methods and compns. for the direct detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes. The invention provides

biopolymeric materials comprising a plurality of polymerized self-assembling monomers and one or more protein ligands, wherein the biopolymeric materials change color in the presence of analyte. In some embodiments, the protein ligands are selected from the group consisting of peptides, proteins, antibodies, receptors, channels, and combinations thereof, although the present invention contemplates all protein ligands. In specific embodiments, the antibodies of the presently claimed invention are directed against Chlamydia.

IC ICM G01N021-00  
ICS G01N031-20; G01N033-544; G01N033-538; G01N033-53; G01N033-567;  
G01N033-537; G01N033-543; C12M001-00; C12N001-00; C12N001-20

CC 9-16 (Biochemical Methods)  
Section cross-reference(s): 6, 10, 80

IT Amino group  
Bacteria (Eubacteria)  
Biosensors  
Blood  
Blood analysis  
Bond  
Buffers  
Carboxyl group  
Cell  
Chelating agents  
Chlamydia  
Chromophores  
Color  
Color reaction  
Colorimetry  
Coupling agents  
Dopants  
Drugs  
Electron acceptors  
Electron donors  
Environmental pollution  
Escherichia coli  
Filters  
Formyl group  
Fungi  
Hepatitis A virus  
Hepatitis B virus  
Human herpesvirus  
Human herpesvirus 3  
Human herpesvirus 4  
Human immunodeficiency virus  
Human poliovirus  
Hydrophilicity  
Hydrophobicity  
Hydroxyl group  
Immobilization, biochemical  
Immunoassay  
Influenza virus  
Ions  
Molecular topology  
Mycobacterium tuberculosis  
Neisseria gonorrhoeae  
Onchocerca  
Parasite  
Pathogen  
Plasmodium (malarial genus)  
Plasmodium falciparum

Rabies virus  
 Reoviridae  
 Rhinovirus  
 Rubella virus  
 Salmonella  
 Self-assembly  
 Self-association  
 Spectroscopy  
 Streptococcus  
 Sulphydryl group  
 Surfactants  
 Toxoplasma gondii  
 Trypanosoma  
 Vaccinia virus  
 Variola virus  
 Vibrio vulnificus  
 Virus  
     (methods and compns. for detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes)

IT Conformation  
     Immobilization, biochemical  
     (protein; methods and compns. for detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes)

IT 56-40-6D, Glycine, diacetylene derivs., analysis 56-85-9D, L-Glutamine, diacetylene derivs., analysis 56-86-0D, L-Glutamic acid, diacetylene derivs., analysis 56-89-3D, Cystine, diacetylene derivs. 57-88-5, Cholesterol, analysis 62-53-3D, Benzenamine, siloxane derivs., analysis 63-42-3D, Lactose, diacetylene derivs. 63-91-2D, L-Phenylalanine, diacetylene derivs., analysis 71-00-1D, L-Histidine, diacetylene derivs., analysis 73-32-5D, L-Isoleucine, diacetylene derivs., analysis 79-06-1D, 2-Propenamide, derivs., analysis 83-44-3 109-97-7D, Pyrrole, derivs. 110-02-1D, Thiophene, derivs. 111-87-5, 1-Octanol, analysis 123-78-4, D-Erythro-Sphingosine 151-21-3, analysis 460-12-8D, Diacetylene, derivs. 583-93-7D, 2,6-Diaminopimelic acid, diacetylene derivs. 1121-34-2, Malic anhydride 4067-16-7D, Pentaethylhexamine, diacetylene derivs. 7440-57-5, Gold, analysis 7631-86-9, Silica, analysis 9002-84-0, Teflon 9002-88-4 9003-53-6, Polystyrene 9012-36-6, Sepharose 9014-76-0, Sephadex 9036-19-5, Octoxynol 18358-13-9D, Methacrylate, derivs., analysis 19295-34-2, Vinylpyridinium 25014-41-9, Polyacrylonitrile 25322-68-3 29557-51-5, Dodecylphosphocholine 37758-47-7, Ganglioside GM1 58846-77-8, Decylglucoside 59247-13-1, Ganglioside GT1b 60676-86-0, Silica, vitreous 66990-32-7, 10,12-Pentacosadienoic acid 120650-77-3 137870-33-8 138305-24-5, 5,7-Pentacosadienoic acid 144314-93-2 146064-05-3 146064-07-5 155020-22-7 162635-75-8 178560-65-1, 5,7-Docosadienoic acid 211996-58-6

RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
     (methods and compns. for detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes)

IT 79-06-1D, 2-Propenamide, derivs., analysis 7631-86-9,  
 Silica, analysis  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
     (methods and compns. for detection of analytes using color changes that occur in biopolymeric material in response to selective binding of analytes)

RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 32 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1998:115338 CAPLUS Full-text  
 DOCUMENT NUMBER: 128:142443  
 TITLE: Gel lattice membrane filter for filtering submicron particles  
 INVENTOR(S): Asher, Sanford A.; Henis, Jay  
 PATENT ASSIGNEE(S): University of Pittsburgh of the Commonwealth System of Higher Education, USA  
 SOURCE: U.S., 14 pp., Cont. of U. S. Ser. No. 151,476, abandoned.  
 DOCUMENT TYPE: CODEN: USXXAM  
 Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE           | APPLICATION NO. | DATE     |
|------------------------|------|----------------|-----------------|----------|
| US 5711884             | A    | 19980127       | US 1995-561162  | 19951121 |
| US 5944994             | A    | 19990831       | US 1997-876051  | 19970604 |
| US 6123845             | A    | 20000926       | US 1998-153521  | 19980915 |
| US 6001251             | A    | 19991214       | US 1998-179151  | 19981026 |
| PRIORITY APPLN. INFO.: |      |                |                 |          |
|                        |      | US 1990-571251 | A2 19900822     |          |
|                        |      | US 1993-151476 | B1 19931112     |          |
|                        |      | US 1995-485731 | B1 19950607     |          |
|                        |      | US 1997-876051 | A1 19970604     |          |

AB A solid filter material is described which filters a predetd. wavelength band from a broader spectrum of radiation. The gel membrane is prepared by creating a colloidal structure composed of particles dispersed within a medium, adding a solvent and then evaporating the solvent so that the remaining structure solidifies into a solid crystalline array. The particles can also be fused together by polymerization. Submicron particles can be filtered using the gel membrane formed from a crystalline colloidal array with an interstice size less than or equal to the particles to be filtered. The gel membrane may employ anisotropic interstices of submicron size, and it is mech. stretchable or compressible. Several gel membrane filters can be stacked so that the material to be filtered flows sequentially through the interstices of the filters leaving different size submicron particles on different levels of the filters. Particles having a pos. or neg. charge can be provided in a lattice with oppositely charged mobile particles (polymeric and inorg. particles) movable into and out of the interstices of the gel membrane. An elec. field can be used to move the mobile particles to close or

open the interstices of the lattice. The mobile particles can also pump material through the interstices. Decorative uses of the materials are described.

IC ICM B01D069-00  
ICS B01D061-14

INCL 210650000

CC 47-2 (Apparatus and Plant Equipment)

Section cross-reference(s): 3, 38, 73

IT 79-06-1D, Acrylamide, polymers 80-62-6D, Methyl methacrylate, polymers 88-12-0D, polymers 110-26-9D, BisAcrylamide, polymers 7631-86-9, Silica, uses 7631-86-9D, Silica, silanized, uses 9003-53-6, Polystyrene 9011-14-7, Polymethylmethacrylate 21982-30-9D, HydroxyMethyl methacrylate, polymers  
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)  
(gel lattice membrane filter for filtering submicron particles)

IT 79-06-1D, Acrylamide, polymers 7631-86-9D, Silica, silanized, uses  
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)  
(gel lattice membrane filter for filtering submicron particles)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



RN 7631-86-9 CAPLUS  
CN Silica (CA INDEX NAME)



REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 33 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 1997:617963 CAPLUS Full-text  
DOCUMENT NUMBER: 127:283826  
TITLE: Functionalized nanotubes  
INVENTOR(S): Fischer, Alan; Hoch, Robert; Moy, David; Lu, Ming;  
Martin, Mark; Niu, Chun Ming; Ogata, Naoya; Tennent,  
Howard; Dong, Liwen; Sun, Ji; Helms, Larry; Jameison,  
Fabian; Liang, Pam; Simpson, David  
PATENT ASSIGNEE(S): Hyperion Catalysis International, Inc., USA  
SOURCE: PCT Int. Appl., 133 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 5  
PATENT INFORMATION:

| PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE     |
|------------|------|----------|-----------------|----------|
| WO 9732571 | A1   | 19970912 | WO 1997-US3553  | 19970305 |

|                        |  |          |                           |          |
|------------------------|--|----------|---------------------------|----------|
| W:                     | AM, AT, AU, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, US, UZ, VN, YU |          |                           |          |
| RW:                    | GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG   |          |                           |          |
| CA 2247820             | A1   | 19970912 | CA 1997-2247820           | 19970305 |
| AU 9721979             | A  | 19970922 | AU 1997-21979             | 19970305 |
| AU 724277              | B2   | 20000914 |                           |          |
| EP 910340              | A1   | 19990428 | EP 1997-914892            | 19970305 |
| R:                     | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI   |          |                           |          |
| CN 1217653             | A  | 19990526 | CN 1997-194402            | 19970305 |
| BR 9707845             | A  | 19990727 | BR 1997-7845              | 19970305 |
| JP 2002503204          | T  | 20020129 | JP 1997-531955            | 19970305 |
| IL 125987              | A  | 20030212 | IL 1997-125987            | 19970305 |
| RU 2200562             | C2   | 20030320 | RU 1998-116596            | 19970305 |
| PRIORITY APPLN. INFO.: |  |          | US 1996-37238 P 19960306  |          |
|                        |  |          | US 1996-37238P P 19960306 |          |
|                        |  |          | WO 1997-US3553 W 19970305 |          |

AB Graphitic nanotubes, which include tubular fullerenes (commonly called buckytubes) and fibrils, which are functionalized by chemical substitution or by adsorption of functional moieties are claimed. More specifically the invention relates to graphitic nanotubes which are uniformly or nonuniformly substituted with chemical moieties or upon which certain cyclic compds. are adsorbed and to complex structures comprised of such functionalized nanotubes linked to one another. The invention also relates to methods for introducing functional groups onto the surface of such nanotubes. The invention further relates to uses for functionalized nanotubes, which include enzyme immobilization for sample separation and immobilizing a biocatalyst capable of catalyzing a reaction on the functionalized nanotubes.

IC ICM A61K009-00

ICS A01N025-00; C09C001-56; B32B005-16

CC 66-4 (Surface Chemistry and Colloids)

Section cross-reference(s): 7

IT Solid phase synthesis

(peptide; surface functionalization of carbon nanotubes and fibrils for substance immobilization)

IT Affinity chromatographic stationary phases

Functional groups

Surface reaction

(surface functionalization of carbon nanotubes and fibrils for enzyme immobilization)

IT 7631-86-9P, Silica, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of silica-carbon fibril composite)

IT 56-87-1DP, L-Lysine, carbon fibril bonded, preparation 58-85-5DP, Biotin, surface reaction product with carbon fibrils 60-24-2DP, Monothioethylene glycol, surface reaction product with carbon nanotubes and fibrils 75-89-8DP, 2,2,2-Trifluoroethanol, surface reaction product with carbon nanotubes and fibrils 79-06-1DP, 2-Propenamide, surface reaction product with carbon nanotubes and fibrils, preparation 79-10-7DP, 2-Propenoic acid, surface reaction product with carbon nanotubes and fibrils, preparation 107-02-8DP, Propenal, surface reaction product with carbon nanotubes and fibrils 107-11-9DP, 3-Amino-1-propene, surface reaction product with carbon nanotubes and fibrils 107-13-1DP, 2-Propenenitrile, surface reaction product with carbon nanotubes and fibrils, preparation 107-18-6DP, 2-Propen-1-ol, surface reaction product with carbon nanotubes and fibrils, preparation

108-31-6DP, 2,5-Furandione, surface reaction product with carbon nanotubes and fibrils, preparation 109-72-8DP, Butyllithium, surface reaction product with carbon nanotubes and fibrils 110-16-7DP, 2-Butenedioic acid (Z)-, surface reaction product with carbon nanotubes and fibrils 111-86-4DP, 1-Octanamine, surface reaction product with carbon nanotubes and fibrils 124-30-1DP, 1-Octadecanamine, surface reaction product with carbon nanotubes and fibrils 151-50-8DP, Potassium cyanide, surface reaction product with carbon nanotubes and fibrils 530-62-1DP, N,N'-Carbonyl diimidazole, surface reaction product with carbon nanotubes and fibrils 593-56-6DP, Methoxyamine hydrochloride, surface reaction product with carbon nanotubes and fibrils 814-68-6DP, Propenoyl chloride, surface reaction product with carbon nanotubes and fibrils 994-30-9DP, Chlorotriethylsilane, surface reaction product with carbon nanotubes and fibrils 1310-73-2DP, Sodium hydroxide, surface reaction product with carbon nanotubes and fibrils 1333-74-0DP, Hydrogen, surface reaction product with carbon nanotubes and fibrils, preparation 1336-21-6DP, Ammonium hydroxide, surface reaction product with carbon nanotubes and fibrils 1892-57-5DP, 1-Ethyl-3-(3-dimethylaminopropyl)carbodiimide, surface reaction product with carbon nanotubes and fibrils 2016-57-1DP, 1-Aminodecane, surface reaction product with carbon nanotubes and fibrils 2074-87-5DP, Cyanogen, surface reaction product with carbon nanotubes and fibrils 4048-33-3DP, 6-Aminohexan-1-ol, surface reaction product with carbon nanotubes and fibrils 4781-83-3DP, 2-Iminothiolane hydrochloride, surface reaction product with carbon nanotubes and fibrils 5591-94-6DP, surface reaction product with carbon nanotubes and fibrils 5957-17-5DP, Triethyl(2-hydroxyethyl)ammonium iodide, surface reaction product with carbon nanotubes and fibrils 7664-41-7DP, Ammonia, surface reaction product with carbon nanotubes and fibrils, preparation 7664-93-9DP, Sulfuric acid, surface reaction product with carbon nanotubes and fibrils, preparation 7697-37-2DP, Nitric acid, surface reaction product with carbon nanotubes and fibrils, preparation 7704-34-9DP, Sulfur, surface reaction product with carbon nanotubes and fibrils, preparation 7732-18-5DP, Water, surface reaction product with carbon nanotubes and fibrils, preparation 7782-44-7DP, Oxygen, surface reaction product with carbon nanotubes and fibrils, preparation 13214-66-9DP, 4-Phenylbutylamine, surface reaction product with carbon nanotubes and fibrils 19008-71-0DP, 8-Aminoocatan-1-ol, surface reaction product with carbon nanotubes and fibrils 23160-46-5DP, 10-Aminodecan-1-ol, surface reaction product with carbon nanotubes and fibrils 103708-09-4DP, Sulfosuccinimidyl-4-(N-maleimidomethyl)cyclohexanecarboxylate, surface reaction product with carbon nanotubes and fibrils 142755-63-3DP, 18-Aminoctadecan-1-ol, surface reaction product with carbon nanotubes and fibrils

RL: SPN (Synthetic preparation); PREP (Preparation)  
(surface functionalization of carbon nanotubes and fibrils for enzyme immobilization)

IT 7631-86-9E, Silica, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of silica-carbon fibril composite)

RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)



IT 79-06-1DP, 2-Propenamide, surface reaction product with carbon nanotubes and fibrils, preparation

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (surface functionalization of carbon nanotubes and fibrils for enzyme  
 immobilization)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



L46 ANSWER 34 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1995:867772 CAPLUS Full-text  
 DOCUMENT NUMBER: 123:248568  
 TITLE: Process for producing endotoxin-free or endotoxin-poor  
 nucleic acids and/or oligonucleotides for gene therapy  
 INVENTOR(S): Colpan, Metin; Schorr, Joachim; Moritz, Peter  
 PATENT ASSIGNEE(S): Qiagen GmbH, Germany  
 SOURCE: PCT Int. Appl., 31 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 4  
 PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE       |
|--|------|----------|-----------------|------------|
| WO 9521177   | A1   | 19950810 | WO 1995-EP389   | 19950203   |
| W: AU, CA, JP, US  |      |          |                 |            |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE |      |          |                 |            |
| DE 4432654   | A1   | 19960321 | DE 1994-4432654 | 19940914   |
| DE 4432654   | C2   | 19980326 |                 |            |
| CA 2182388   | A1   | 19950810 | CA 1995-2182388 | 19950203   |
| CA 2182388   | C    | 20070807 |                 |            |
| CA 2182397   | A1   | 19950810 | CA 1995-2182397 | 19950203   |
| CA 2182397   | C    | 20040413 |                 |            |
| AU 9516646   | A    | 19950821 | AU 1995-16646   | 19950203   |
| AU 691574  | B2   | 19980521 |                 |            |
| WO 9608500   | A1   | 19960321 | WO 1995-EP392   | 19950203   |
| W: AU, CA, JP, US  |      |          |                 |            |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE |      |          |                 |            |
| AU 9516647   | A    | 19960329 | AU 1995-16647   | 19950203   |
| EP 743949  | A1   | 19961127 | EP 1995-908258  | 19950203   |
| EP 743949  | B1   | 19991215 |                 |            |
| R: AT, BE, CH, DE, DK, FR, GB, IE, IT, LI, LU, NL, SE              |      |          |                 |            |
| EP 781291  | A1   | 19970702 | EP 1995-908259  | 19950203   |
| EP 781291  | B1   | 20041208 |                 |            |
| R: CH, DE, FR, GB, LI  |      |          |                 |            |
| JP 09508406  | T    | 19970826 | JP 1995-520389  | 19950203   |
| JP 3847779   | B2   | 20061122 |                 |            |
| AT 179425  | T    | 19990515 | AT 1995-907641  | 19950203   |
| AT 187733  | T    | 20000115 | AT 1995-908258  | 19950203   |
| US 5990301   | A    | 19991123 | US 1996-687529  | 19961018   |
| US 6274371   | B1   | 20010814 | US 1997-809072  | 19970619   |
| US 6297371   | B1   | 20011002 | US 1999-253702  | 19990222   |
| US 2002032324  | A1   | 20020314 | US 2001-962459  | 20010926   |
| US 2006194304  | A1   | 20060831 | US 2006-412130  | 20060427   |
| PRIORITY APPLN. INFO.:   |      |          | DE 1994-4403692 | A 19940207 |

|                 |             |
|-----------------|-------------|
| DE 1994-4422291 | A 19940625  |
| DE 1994-4431125 | A 19940901  |
| DE 1994-4432654 | A 19940914  |
| WO 1995-EP389   | W 19950203  |
| WO 1995-EP392   | W 19950203  |
| US 1996-687588  | A3 19960731 |
| US 1996-687529  | A3 19961018 |
| US 1998-26613   | B1 19980220 |
| US 1999-253702  | A3 19990222 |
| US 1999-443091  | B3 19991118 |
| US 2002-254845  | A3 20020926 |

OTHER SOURCE(S): MARPAT 123:248568

AB A process is disclosed for isolating and purifying nucleic acids and/or oligonucleotides for gene therapy. The nucleic acids and/or oligonucleotides are isolated or purified from a substantially biol. source. The process is characterized in that the substantially biol. sources are disintegrated, if required the residues of biol. source are removed or eliminated from the thus obtained fractions by a mech. process known per se, such as centrifugation or filtering, the the processed fractions are treated with affinity chromatog. material or with inorg. chromatog. material for removing endotoxins, the nucleic acids and/or oligonucleotides are isolated on an anion exchanger designed so that DNA starts to be desorbed from the anion exchanger only when the sodium chloride solution ionic strength is at least about 100 mM higher than the ionic strength at which the RNA of the anion exchange material starts to be desorbed from the anion exchanger.

IC ICM C07H001-08

ICS C12N015-10; C12P019-34

CC 3-2 (Biochemical Genetics)

Section cross-reference(s): 1, 9, 15  
7631-86-9, Silica, biological studies

IT RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(gel; process for producing endotoxin-free or endotoxin-poor nucleic acids and/or oligonucleotides for gene therapy)

IT 79-06-1, Acrylamide, biological studies 100-37-8, Daeo  
108-01-0, DMAE 1306-06-5, Hydroxylapatite 1314-23-4, Zirconium oxide, biological studies 1344-28-1, Aluminum oxide, biological studies 9003-53-6, Polystyrene 9004-54-0, Dextran, biological studies 9012-36-6, Agarose 13463-67-7, Titanium oxide, biological studies

RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(process for producing endotoxin-free or endotoxin-poor nucleic acids and/or oligonucleotides for gene therapy)

IT 7631-86-9, Silica, biological studies

RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(gel; process for producing endotoxin-free or endotoxin-poor nucleic acids and/or oligonucleotides for gene therapy)

RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)



IT 79-06-1, Acrylamide, biological studies

RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)  
(process for producing endotoxin-free or endotoxin-poor nucleic acids

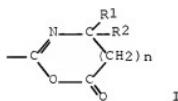
and/or oligonucleotides for gene therapy)  
 RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



L46 ANSWER 35 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1993:444706 CAPLUS Full-text  
 DOCUMENT NUMBER: 119:44706  
 TITLE: Covalently reactive particles incorporated in a continuous porous matrix  
 INVENTOR(S): Rasmussen, Jerald K.; Heilmann, Steven M.; Krebski, Larry R.; Coleman, Patrick L.; Milbrath, Dean S.; Walker, Margaret M.; Hagan, Donald F.; Hansen, John C.; Campbell, John C.  
 PATENT ASSIGNEE(S): Minnesota Mining and Manufacturing Co., USA  
 SOURCE: PCT Int. Appl., 40 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE       |
|--|------|----------|-----------------|------------|
| WO 9306925   | A1   | 19930415 | WO 1992-US8426  | 19921002   |
| W: CA, JP, KR  |      |          |                 |            |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE |      |          |                 |            |
| EP 607327  | A1   | 19940727 | EP 1992-922111  | 19921002   |
| EP 607327  | B1   | 19971229 |                 |            |
| R: BE, CH, DE, DK, FR, GB, IT, LI, NL, SE                      |      |          |                 |            |
| JP 07500363  | T    | 19950112 | JP 1993-507095  | 19921002   |
| JP 3445268   | B2   | 20030908 |                 |            |
| PRIORITY APPLN. INFO.:   |      |          | US 1991-776601  | A 19911011 |
|  |      |          | WO 1992-US8426  | W 19921002 |

GI



AB A composite article is provided having covalently reactive particles incorporated in a continuous, porous matrix. The reactive particles have surfaces of covalently reactive functional groups capable of directly forming covalent bonds with ligands without need for an intermediate activation step. An adduct composite particle is also provided, which comprises a continuous porous matrix and derivatized particles dispersed therein. The derivatized particles comprise a direct, covalent reaction product of ligand with the

covalently reactive particles. Methods of making and using the composite articles and adduct composite articles are also provided. Preferred covalently reactive functional groups are azlactone functional groups I (R<sub>1</sub>, R<sub>2</sub> = C1-14 alkyl, C3-14 cycloalkyl, aryl with 5-12 ring atoms, arenyl with 6-26 C atoms and 0-3 S, N, and nonperoxidic O heteroatoms, or R<sub>1</sub>R<sub>2</sub> is a carbocyclic ring of 4-12 ring atoms; n = 0, 1). Thus, azlactone beads (prepared from vinylidemethylazlactone and methylene-bis-acrylamide; according to EP 0 392 735) were incorporated into a PTFE matrix, and the resulting composite was dried. Protein A was directly covalently coupled to disks of the composite material. A fifteen-fold increase was observed in the covalent coupling of protein A to the composite beads relative to control (composite treated with ethanolamine quenching agent). Preparation of other composites is described, as is the use of the prepared composites for separation of IgG from human serum and in an immunoassay for human IgG.

IC ICM B01J020-28

CC 9-14 (Biochemical Methods)

IT Immobilization, biochemical

(of ligand by direct covalent bonding, particles with covalently reactive functional groups in porous matrix for)

IT 79-06-1b, 2-Propenamide, copolymers 79-39-0D, copolymers

79-41-4D, esters, copolymers 108-05-4D, Acetic acid ethenyl ester, copolymers 9012-36-6, Agarose

RL: ANST (Analytical study)

(particles of, with covalently reactive functional groups, for direct covalent bonding of ligand)

IT 7631-86-9, Silica, properties

RL: PRP (Properties)

(particles of, with covalently reactive functional groups, for direct covalent bonding of ligand)

IT 79-06-1b, 2-Propenamide, copolymers

RL: ANST (Analytical study)

(particles of, with covalently reactive functional groups, for direct covalent bonding of ligand)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



IT 7631-86-9, Silica, properties

RL: PRP (Properties)

(particles of, with covalently reactive functional groups, for direct covalent bonding of ligand)

RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)



L46 ANSWER 36 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1993:404425 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 119:4425

TITLE: Selective affinity material, preparation thereof by molecular imprinting, and use of the same

INVENTOR(S): Glad, Magnus; Kempe, Maria; Mosbach, Klaus  
 PATENT ASSIGNEE(S): Swed.  
 SOURCE: PCT Int. Appl., 14 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE       |
|---|------|----------|-----------------|------------|
| WO 9305068  | A1   | 19930318 | WO 1992-SE610   | 19920904   |
| W: AT, AU, BB, BG, BR, CA, CH, CS, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, PL, RO, RU, SD, SE, US |      |          |                 |            |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG        |      |          |                 |            |
| SE 9102622  | A    | 19930307 | SE 1991-2622    | 19910906   |
| AU 9225616  | A    | 19930405 | AU 1992-25616   | 19920904   |
| EP 602154   | A1   | 19940622 | EP 1992-919401  | 19920904   |
| EP 602154   | B1   | 19990127 |                 |            |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE   |      |          |                 |            |
| JP 06510474   | T    | 19941124 | JP 1993-504724  | 19920904   |
| JP 3527239  | B2   | 20040517 |                 |            |
| AT 176238   | T    | 19990215 | AT 1992-919401  | 19920904   |
| US 2003049870   | A1   | 20030313 | US 1994-199300  | 19940505   |
| US 7122381  | B2   | 20061017 |                 |            |
| PRIORITY APPLN. INFO.:  |      |          | SE 1991-2622    | A 19910906 |
|   |      |          | WO 1992-SE610   | A 19920904 |

AB A selective adsorption material, especially suitable for adsorption of biol. macromols., is described. The adsorption material comprises a matrix with immobilized ligands which are localized to selectively adsorb a predetd. mol. The selective adsorption material can be used for purification and anal., especially of biol. macromols. A process for preparing the adsorption material includes bonding  $\geq 2$  immobilizable ligands to a print mol. having  $\geq 2$  sep. binding sites, immobilizing the ligands, then removing the print mol. The print mol. is preferably a biol. macromol. (enzyme, antibody, polysaccharide, etc.). After prebonding to the print mol. and the subsequent immobilization, the binding groups (ligands) will be bonded preferably to the surface of a matrix. The  $\geq 2$  immobilized ligands will be correctly spaced apart, resulting in optimal binding of the target mol. in the adsorption process. Thus, a print mol. of either RNase B (I) or soybean trypsin inhibitor (II) was mixed with methacrylate-silica, vinylimidazole, acrylpheny boric acid, acrylamide, piperazine diacrylamide, TEMED, ZnCl<sub>2</sub>, (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, and water/DMF. The solidified reaction mixture was washed, small polymer particles were removed, and the remaining particles were packed in steel columns. When injecting RNase B on the material prepared using print mol. I, elution was delayed as compared with the adsorbent prepared using print mol. II.

IC ICM C07K003-18

ICS B01D015-08

CC 9-3 (Biochemical Methods)

Section cross-reference(s): 80

IT Immobilization, biochemical  
 (of ligands, selective localized, print mol. in, for affinity adsorbent preparation)

IT Chromatography, column and liquid  
 (affinity, stationary phases, preparation of, print mol. for ligand selective localization in)

IT 7631-86-9, Silica, uses

RL: ANST (Analytical study)

(ligand selective localized immobilization on, print mol. for, in affinity adsorbent preparation)

IT 2530-85-0DP, 3-Methacryloyloxypropyltrimethoxysilane, silica reaction products 7631-86-9DP, Silica, reaction products with 3-methacryloyloxypropyltrimethoxysilane  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, in selective adsorbent preparation with print mol.)

IT 79-06-1, Acrylamide, reactions 6342-17-2 29383-23-1, Vinyl imidazole 147815-02-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, in selective adsorbent preparation with print mol.)

IT 7631-86-9, Silica, uses  
 RL: ANST (Analytical study)  
 (ligand selective localized immobilization on, print mol. for, in affinity adsorbent preparation)

RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)



IT 7631-86-9DP, Silica, reaction products with 3-methacryloyloxypropyltrimethoxysilane  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, in selective adsorbent preparation with print mol.)

RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)



IT 79-06-1, Acrylamide, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, in selective adsorbent preparation with print mol.)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



L46 ANSWER 37 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1993:12234 CAPLUS Full-text  
 DOCUMENT NUMBER: 118:12234  
 TITLE: Reaction of solid-phase  
 hydrosilylation with participation of  
 .scharw.Si-H-groups of silica surface and some olefin  
 derivatives

AUTHOR(S): Belyakova, L. A.; Simurov, A. V.; Lyashenko D. Yu.  
 CORPORATE SOURCE: Inst. Khim. Poverkhn., Kiev, Ukraine  
 SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition)  
 (1992), 58(8), 630-5  
 CODEN: UKZHAU; ISSN: 0041-6045  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Russian  
 AB The surfaces of SiO<sub>2</sub> were characterized by IR spectroscopy after solid phase hydrosilylation reactions involving .scharw.Si-H groups and unsatd. organic compds. (vinyltrimethylsilane, vinyltrichlorosilane, acetylacetone, vinyl acetate, acrylamide). A relation was established between reaction capacity and structure for these olefins. The IR spectra showed that Si-C bonds are formed during the surface reactions of all of these olefins.  
 CC 66-5 (Surface Chemistry and Colloids)  
 Section cross-reference(s): 22, 29  
 ST solid phase hydrosilylation silica alkene  
 functionalized; IR spectra surface reaction silica alkene  
 IT 7631-86-9, Silica, properties  
 RL: PRP (Properties)  
 (surface hydrosilylation on, unsatd. organic compound effects on  
 solid-phase)  
 IT 79-06-1, Acrylamide, reactions 108-05-4, Vinyl acetate,  
 reactions 123-54-6, Acetylacetone, reactions 754-05-2,  
 Vinyltrimethylsilane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (surface reaction of, with silica)  
 IT 7631-86-9, Silica, properties  
 RL: PRP (Properties)  
 (surface hydrosilylation on, unsatd. organic compound effects on  
 solid-phase)  
 RN 7631-86-9 CAPLUS  
 CN Silica (CA INDEX NAME)



IT 79-06-1, Acrylamide, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (surface reaction of, with silica)  
 RN 79-06-1 CAPLUS  
 CN 2-Propenamide (CA INDEX NAME)



L46 ANSWER 38 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1992:629619 CAPLUS Full-text  
 DOCUMENT NUMBER: 117:229619  
 TITLE: stationary phase material for HPLC  
 INVENTOR(S): Hjerten, Stellan; Liao, Jia Li  
 PATENT ASSIGNEE(S): Bio-Rad Laboratories, Inc., USA  
 SOURCE: U.S., 27 pp. Cont.-in-part of U.S. Ser. No. 370,921,  
 abandoned.  
 CODEN: USXXAM

DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE        |
|------------------------|------|----------|-----------------|-------------|
| US 5135650             | A    | 19920804 | US 1990-518038  | 19900502    |
| PRIORITY APPLN. INFO.: |      |          | US 1988-288600  | B2 19881222 |
|                        |      |          | US 1989-370921  | B2 19890623 |

AB Highly compressible stationary phase material, e.g. agarose beads, are made rigid to a degree suitable for use in HPLC and nonporous to proteins by 1 of 2 procedures. The 1st involves shrinking the beads with the use of an organic solvent in which the agarose bead will neither dissolve nor swell to collapse the porosity, followed by crosslinking the bead surfaces inside the collapsed pores to fix the pores in their collapsed state. The 2nd involves filling the pores (without shrinkage of the beads) with a polymerizable substance which grafts to the pore surface, and performing the graft polymerization. The invention also extends to rigid beads, which are rendered deformable to a limited degree by coating the surface with a polymer. Finally, porous rigid beads are rendered nonporous by polymerizing a polymerizable material inside the pores in the same manner as the porous compressible beads. Preparation and testing of a variety of chromatog. stationary phases is described. Thus, macroporous agarose beads were collected, and the water in the beads was exchanged for dioxane. On washing with a dioxane-CHCl<sub>3</sub> mixture, the volume of the sedimented beads decreased by approx. 65%, with the diameter of the shrunken beads being 10-50 µm. The beads were further reacted with octanol, and the octyl agarose beads formed were used for hydrophobic interaction chromatog. Elution of human transferrin is shown; resolution increased with flow rate.

IC ICM B01D15-08

INCL 210198200

CC 9-3 (Biochemical Methods)

Section cross-reference(s): 80

ST compressible chromatog stationary phase particle;  
 agarose stationary phase HPLC; octyl agarose  
 hydrophobic interaction chromatog

IT Epoxides  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (as crosslinking agent, in agarose bead preparation for chromatog.  
 stationary phase)

IT Albumins, analysis  
 Hemoglobins  
 Myoglobins  
 Ovalbumins  
 Phycoerythrins  
 Thyroglobulins  
 Transferrins  
 RL: ANT (Analyte); ANST (Analytical study)  
 (chromatog. of, with nonporous agarose bead-based HPLC  
 stationary phase)

IT Crosslinking agents  
 (in agarose bead preparation for chromatog. stationary  
 phase)

IT Proteins, uses  
 RL: USES (Uses)  
 (low-porosity agarose beads impermeable to, for HPLC stationary  
 phase)

IT Solvents  
 (organic, in agarose bead preparation for chromatog. stationary

- phase)
- IT Epoxides  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (di-, as crosslinking agent, in agarose bead preparation for chromatog.  
 stationary phase)
- IT Chromatography, column and liquid  
 (focusing, polyethyleneimine-derivatized nonporous agarose bead-based  
 stationary phase for)
- IT Hemoglobins  
 RL: ANT (Analyte); ANST (Analytical study)  
 (glyco-, HPLC of, with nonporous agarose bead-based stationary  
 phase)
- IT Chromatography, column and liquid  
 (high-performance, beads of agarose or other material for  
 stationary phase for, preparation of)
- IT Chromatography, column and liquid  
 (hydrophobic, nonporous agarose bead-based stationary  
 phase for)
- IT 2425-79-8, 1,4-Butanediol diglycidyl ether 2530-83-8,  
 $\gamma$ -Glycidoxypolytrimethoxysilane  
 RL: ANST (Analytical study)  
 (as crosslinking agent, in agarose bead preparation for chromatog.  
 stationary phase)
- IT 9012-36-6, Agarose  
 RL: ANST (Analytical study)  
 (beads, low-porosity protein-impermeable, for HPLC stationary  
 phase)
- IT 7631-95-9E, Silica, biological studies  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (beads, nonporous, preparation of, for HPLC stationary  
 phase)
- IT 9001-05-2, Catalase 9001-63-2, Lysozyme 9001-99-4, Ribonuclease  
 9007-43-6, Cytochrome c, analysis 9035-75-0,  $\alpha$ -Chymotrypsinogen A  
 RL: ANT (Analyte); ANST (Analytical study)  
 (chromatog. of, with nonporous agarose bead-based HPLC  
 stationary phase)
- IT 9001-60-9, Lactate dehydrogenase  
 RL: ANT (Analyte); ANST (Analytical study)  
 (chromatog. of, with nonporous silica bead-based stationary  
 phase)
- IT 123-91-1, Dioxane, biological studies 144422-01-5 144490-95-9  
 RL: ANST (Analytical study)  
 (in agarose bead preparation for HPLC stationary phase)
- IT 7732-18-5, Water, analysis  
 RL: ANST (Analytical study)  
 (organic solvent miscible in, in agarose bead preparation for chromatog.  
 stationary phase)
- IT 124-40-3DP, reaction products with nonporous agarose beads 9012-36-6DP,  
 Agarose, reaction products with diamethylamine  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, for HPLC stationary phase)
- IT 79-06-1, Acrylamide, reactions 106-92-3, Allylglycidyl ether  
 556-52-5, Glycidol 3033-77-0, Glycidyl trimethylammonium chloride  
 29063-28-3, Octanol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, in HPLC stationary phase preparation with  
 nonporous agarose beads)
- IT 98-80-6, Phenylboronic acid  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, in HPLC stationary phase preparation with

nonporous agarose beads, (non)glycosylated Hb separation with)  
IT 9002-98-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, in chromatofocusing stationary phase  
preparation with nonporous agarose beads)  
IT 924-42-5, N-Methylolacrylamide 1464-53-5, 1,3-Butadiene diepoxyde  
5926-90-9, Hexylglycidyl ether  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, in nonporous silica bead preparation for HPLC  
stationary phase)  
IT 124-40-3, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with nonporous agarose beads, for HPLC stationary  
phase)  
IT 7631-86-9P, Silica, biological studies  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(beads, nonporous, preparation of, for HPLC stationary  
phase)  
RN 7631-86-9 CAPLUS  
CN Silica (CA INDEX NAME)



IT 79-06-1, Acrylamide, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, in HPLC stationary phase preparation with  
nonporous agarose beads)  
RN 79-06-1 CAPLUS  
CN 2-Propenamide (CA INDEX NAME)



L46 ANSWER 39 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 1990:154843 CAPLUS Full-text  
DOCUMENT NUMBER: 112:154843  
TITLE: Capillary gel electrophoresis columns  
INVENTOR(S): Karger, Barry L.; Cohen, Aharon S.  
PATENT ASSIGNEE(S): Northeastern University, USA  
SOURCE: Eur. Pat. Appl., 18 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 8  
PATENT INFORMATION:

| PATENT NO.                    | KIND | DATE     | APPLICATION NO. | DATE       |
|-------------------------------|------|----------|-----------------|------------|
| EP 324539                     | A2   | 19890719 | EP 1989-300055  | 19890105   |
| EP 324539                     | A3   | 19900530 |                 |            |
| R: CH, DE, FR, GB, IT, LI, SE |      |          |                 |            |
| US 4865707                    | A    | 19890912 | US 1988-143442  | 19880112   |
| PRIORITY APPLN. INFO.:        |      |          | US 1988-143442  | A 19880112 |

US 1986-921311 A2 19861021

AB A microcapillary column for high-performance electrophoresis includes a microcapillary, a hydrophilic polymer within a gel of crosslinked polyacrylamide polymerized in the tube, and preferably, a thin layer of connecting material covalently bonded to the inner surface of the microcapillary wall and to the polymeric gel. The microcapillary is prepared by 1st covalently bonding a suitable bifunctional reagent to the inner surface of the microcapillary wall, and then causing a mixture of the hydrophilic polymer, monomer, crosslinking agent, and polymerization catalyst to react in the bore of the microcapillary to form a hydrophilic polymer-containing gel matrix which is covalently bonded to the microcapillary wall via the bifunctional reagent. In electrophoresis, this gel-containing microcapillary can provide peak efficiencies >100,000 theor. plates within separation times of <30 min, permits trace level detns. of mol. wts., and permits electrophoretic operation at fields ≥1000 V/cm, resulting in extremely high-resolution sepn's. Fused silica microcapillary tubing having an internal diameter of 75 µM, a wall thickness of 30 µM, and polyimide coating, was treated with bifunctional 3- methacryloxypropyltrimethoxysilane and filled with a soln having T = 6%, C = 3.3% and containing acrylamide, N,N'-methylenebisacrylamide, and 20 weight/volume% PEG. Addition of 3.0 µL TEMED and 5 µL persulfate gave a polymerization time of .apprx.45 min. A mixture of recombinant human growth hormone and the corresponding 2-chain material (having proteolytic clip between amino acids 142 and 143) was separated using the microcapillary.

ICM G01N027-26

CC 9-7 (Biochemical Methods)

Section cross-reference(s): 2, 80

IT 79-06-15, 2-Propenamide, copolymers 25034-58-6 27791-61-3  
92625-61-1 112526-69-9 125998-77-8

RL: ANST (Analytical study)

(hydrophilic polymer-containing, microcapillary-crosslinked, for high-performance gel electrophoresis)

IT 1304-56-9, Beryllia 1344-28-1, Alumina, analysis 7631-86-9D,  
Silica, derivs. 9002-84-0, Teflon

RL: ANST (Analytical study)

(microcapillary of, polymeric gel and hydrophilic polymer crosslinked to, for high-performance gel electrophoresis)

IT 79-06-15, 2-Propenamide, copolymers

RL: ANST (Analytical study)

(hydrophilic polymer-containing, microcapillary-crosslinked, for high-performance gel electrophoresis)

RN 79-06-1 CAPLUS

CN 2-Propenamide (CA INDEX NAME)



IT 7631-86-9D, Silica, derivs.

RL: ANST (Analytical study)

(microcapillary of, polymeric gel and hydrophilic polymer crosslinked to, for high-performance gel electrophoresis)

RN 7631-86-9 CAPLUS

CN Silica (CA INDEX NAME)

0—51—0

L46 ANSWER 40 OF 40 CAPLUS COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 1979:51095 CAPLUS Full-text  
 DOCUMENT NUMBER: 90:51095  
 ORIGINAL REFERENCE NO.: 90:8141a,8144a  
 TITLE: Radioimmunoassay system  
 INVENTOR(S): Hales, Richard Harold  
 PATENT ASSIGNEE(S): Becton, Dickinson and Co., USA  
 SOURCE: U.S., 10 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE       |
|---|------|----------|-----------------|------------|
| US 4108975  | A    | 19780822 | US 1977-774277  | 19770304   |
| PRIORITY APPLN. INFO.:  |      |          | US 1977-774277  | A 19770304 |
| AB A reusable immunoadsorbent for radioimmunoassays is described. The adsorbent includes a refractory material with a polymeric material bonded to it and to which is linked on acyl azide, carbonate, thiocarbonate, polythiol, isocyanate, epoxide, or chlorothioformate group for reaction with the CO2H or NH2 group of the antibody. The refractory material is a glass with a porous surface and a nonporous core. The barrier coating polymer is a vinyl compound, CM-cellulose, or dextran, and the linking group is preferably acyl azide or polythiol. Thus, 25g Zipax carrier is refluxed with 41 mL vinyltrichlorosilane in 85 mL isoctane for 2 h, the product is filtered, washed with isoctane or acetone and dried. A 6.25-g sample was refluxed 2 h with 2.5 mL acrylic acid and 0.25 g benzoyl peroxide in 624 mL MeCN to form a poly(acrylic acid)-coated derivative, which was filtered, extracted with MeCN, Me2CO, and H2O, and dried. The derivative was treated with thionyl chloride to form the polyacid chloride, which was treated with NaN3 to form the polyazide. The polyazide was treated with antibody to prepare the immunoadsorbent. |      |          |                 |            |
| IC G01N033-16   |      |          |                 |            |
| INCL 424001000  |      |          |                 |            |
| CC 9-5 (Biochemical Methods)  |      |          |                 |            |
| Section cross-reference(s): 2   |      |          |                 |            |
| IT 7631-86-9, reactions   |      |          |                 |            |
| RL: RCT (Reactant); RACT (Reactant or reagent)<br>(pellicular, antibodies immobilization on, as reusable immunoadsorbents for radioimmunoassay)   |      |          |                 |            |
| IT 79-06-1UP, polymers with Zipax 79-10-7DP, polymers with Zipax 107-18-6DP, polymers with Zipax 870-23-5DP, polymers with Zipax  |      |          |                 |            |
| RL: SPN (Synthetic preparation); PREP (Preparation)<br>(preparation of, radioimmunoassay immunoadsorbents preparation in relation to)   |      |          |                 |            |
| IT 7631-86-9, reactions   |      |          |                 |            |
| RL: RCT (Reactant); RACT (Reactant or reagent)<br>(pellicular, antibodies immobilization on, as reusable immunoadsorbents for radioimmunoassay)   |      |          |                 |            |
| RN 7631-86-9 CAPLUS   |      |          |                 |            |
| CN Silica (CA INDEX NAME)   |      |          |                 |            |

O—S1—O

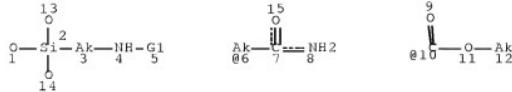
IT 79-06-1DP, polymers with Zipax  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, radioimmunoassay immunoadsorbents preparation in relation  
to)  
RN 79-06-1 CAPLUS  
CN 2-Propenamide (CA INDEX NAME)



FILE 'HOME' ENTERED AT 10:13:08 ON 17 MAR 2008

## SEARCH HISTORY

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VAR G1=6/10

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CONNECT IS E2 RC AT 6  
CONNECT IS E1 RC AT 12  
DEFAULT MLEVEL IS ATOM  
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## GRAPH ATTRIBUTES:

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## STEREO ATTRIBUTES: NONE

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1 ANSWERS

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112263-79-3/B1 OR 135575-42-7/B1 OR 141-78-6/B1 OR 142-82-5/B1  
OR 15761-39-4/B1 OR 162808-62-0/B1 OR 1634-04-4/B1 OR 166663-25  
-8/B1 OR 235114-32-6/B1 OR 64-17-5/B1 OR 67-56-1/B1 OR  
67-63-0/B1 OR 75-05-8/B1 OR 75-09-2/B1 OR 7631-86-9/B1 OR  
7732-18-5/B1 OR 79-06-1/B1 OR 79-22-1/B1 OR 79404-91-4/B1)  
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L5 15178 SEA SSS FUL L3 EXTEND  
L6 1 SEA SSS FUL L3  
SAVE TEMP L6 ARN155FULL/A  
D SCAN

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 D SCAN L1

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 L9           1 SEA ABB=ON 79-22-1  
 L10          1 SEA ABB=ON 15761-39-4

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L11          411148 SEA ABB=ON L7  
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 L13          411 SEA ABB=ON L11 AND L12  
 L14          102308 SEA ABB=ON (STATIONARY/OBI OR SOLID/OBI) (L) (PHASE#/OBI OR SUPPORT#/OBI)  
 L15          18 SEA ABB=ON L13 AND L14  
 L16          8921 SEA ABB=ON L7/D  
 L17          2 SEA ABB=ON L16 AND L12 AND L14  
 L18          16 SEA ABB=ON L15 NOT (L1 OR L17)  
 D SCAN  
 L19          3 SEA ABB=ON L6  
 D SCAN TI  
 D SCAN  
 E IMMobilization/CT  
 E E3+ALL  
 E IMMobilization/CT  
 E E5+ALL  
 L20          34779 SEA ABB=ON IMMobilization/CW  
 L21          23 SEA ABB=ON L13 AND L20  
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 E AMX/RL  
 L23          710 SEA ABB=ON L11(L)AMX/RL  
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 L25          2342540 SEA ABB=ON PHARMAC?/SC, SX  
 L26          3 SEA ABB=ON L25 AND L13 AND L20  
 E SILOXANES+ALL/CT  
 E E2+NT1  
 E E1+OLD  
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 L28          36 SEA ABB=ON L11 AND L12 AND L27  
 L29          9 SEA ABB=ON L25 AND L28  
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 L30          8111992 SEA ABB=ON 9/SC, SX  
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 D SCAN L1  
 D QUE L19  
 L38          40 SEA ABB=ON ANTIA F?/AU  
 L39          1852 SEA ABB=ON BOYD R?/AU  
 L40          84 SEA ABB=ON DASILVA J?/AU  
 L41          146 SEA ABB=ON GOLDEN K?/AU  
 L42          1 SEA ABB=ON NTIGYABAHAJ?/AU  
 L43          547 SEA ABB=ON WELCH C?/AU  
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L44            2 SEA ABB=ON L1 OR ((L38 OR L39 OR L40 OR L41 OR L42 OR L43)  
              AND ((L11 AND L12) OR L19))

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D QUE L24  
D QUE L26  
D QUE L32  
D QUE L33  
D QUE L34

L46            40 SEA ABB=ON (L15 OR L22 OR L24 OR L26 OR L32 OR L33 OR L34)  
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